THE MAGAZINE FOR AUSTRALIAN RADIO AMATEURS

Amateur Radio

Volume 76
Number 4

APRIL 2008

$7.00
incl GST

WIRELESS INSTITUTE OF AUSTRALIA

Meet us at BROKEN HILL

WIA AGM
24 & 25 May

"Under the jaguar sun"

Review
Yaesu VX-3R
the midget marvel

ISSN 0002-6859

HF/50 MHz Transceiver
FT DX 9000D

The radio... YAESU

Choice of the World's top DX'ers

HF/50 MHz Transceiver
FT-2000

HF/50 MHz Transceiver
FT-950

HF/50 MHz 100 W
All Mode Transceiver
FT-450

HF/VHF/UHF All-Mode
Portable Base Transceiver
FT-897D

Ultra-Compact HF/VHF/UHF
All-Mode Transceiver
FT-857D

5 W HF-430 MHz
All Mode Portable
FT-817ND

YAESU... the Best of the Best Just Got Better!

These are exciting times for Yaesu, our customers, and Amateur Radio. The future is bright and the potential for incredible technological advancement for Amateur Radio is immense. We are glad you will be with us as the positive affects of the Vertex Standard / Motorola joint-venture become apparent to all in the months and years ahead.

65 W 2 m
Rugged FM Mobile
FT-2800M

50 W 2 m Ultra Rugged
VHF FM Mobile
FT-1802M

2 m/70 cm Dual Band FM Mobile
(2 m 50 W/ 70 cm 40 W)
FTM-10R

IP57
Submersible
3 feet for 30 min
Front panel

2 m/70 cm Dual Band FM Mobile
(2 m 10 W/ 70 cm 7 W)
FTM-10SR

IP57
Submersible
3 feet for 30 min
Body/Front panel

5 W Ultra-Rugged, Submersible
6 m/2 m/70 cm Tri-Band FM Handheld
VX-7R/VX-7RB

5 W Heavy Duty Submersible
2 m/70 cm Dual Band FM Hand held
(220 MHz: 1.5 W)
VX-6R

50 W 10 m/6 m/2 m/70 cm
Quad Band FM Mobile
FT-8900R

50 W 2 m/70 cm
Dual Band FM Mobile
FT-8800R

50 W 2 m/70 cm
Dual Band FM Mobile
FT-7800R

5 W Heavy Duty
2 m/70 cm Dual Band
FM Handheld
FT-60R/E

1.5 W Ultra Compact
2 m/70 cm Dual Band
FM Handheld
VX-3R

5 W Submersible Full Featured FM Handheld
2 m VX-170/120 • 70 cm VX-177/127
VX-170/VX-120 Series

YAESU
Choice of the World's top DX'ers℠

Vertex Standard (Australia)
Ph +61 (0) 3 9518 2100
www.vxstd.com.au

Amateur Radio

Volume 76, Number 4
April 2008

The Journal of the Wireless Institute of Australia
ISSN 0002-6859

Editorial

Editor: Peter Freeman VK3KAI
editor-armag@wia.org.au

Technical Editor: Peter Gibson VK3AZL

Publications Committee Members

Brenda Edmonds	VK3KT
Ron Fisher	VK3OM
Evan Jarman	VK3ANI
Tom Potter	VK3UBS
Bill Roper	VK3BR
Ernie Walls	VK3FM
Don Jackson	VK3DBB

All circulation matters

nationaloffice@wia.org.au

How to submit material

General and Technical articles

Secretary
AR Publications Committee
PO Box 2175
Caulfield Junction Vic 3161
or armag@wia.org.au

Columns and letters to Editor

Editor
AR Magazine
PO Box 273
Churchill Vic 3842
or
editor-armag@wia.org.au

Hamads

"Hamads" Newsletters Unlimited
PO Box 431
Monbulk 3793
newunltd@bigpond.net.au

Advertising

All enquiries to
Newsletters Unlimited
PO Box 431
Monbulk Vic 3793
Phone: 03 9756 7797
newunltd@bigpond.net.au

Registered Office

10/229 Balaclava Road
Caulfield North Vic 3161
Australia
Phone: 03 9528 5962
Fax: 03 9523 8191

Production Deadlines

General articles, columns and advertising booking 10th day of previous month.

Hamads and advertising material 15th day of previous month

The contents of Amateur Radio are Copyright Wireless Institute of Australia © 2008

GENERAL

Ballot for Two Letter Callsigns 5
A better way to encrypt messages? 9
Simon Rice VK8ZJZ
Silent Key: Ken Matchett VK3TL 22
SES/QPS/WICEN practise techniques 27
Gavin Reibelt VK4ZZ
Tony Hutchison VK5ZAI receives Johnson Space Centre Award 35
Robert Broomhead VK3KRB
The end of an era 40
Len Ricardo JP VK1ALR
Owner's manual for a ham band 50
John Kirk VK4TJ
Radios? you mean like CBs or something? 51
Jayenne Conroy

TECHNICAL

Fox hunting antennas for 2 metres 6
Bill Isdale VK4TWI
A combined MF-HF SWR meter and RF ammeter 11
Drew Diamond VK3XU
A novel antenna direction indicator 16
Lou De Stefano VK3AQZ
Equipment review: The Yaesu VX-3R 18
Ron Fisher VK3OM
Fuses, or how to get a smaller bang for your buck! 20
Clive Wallis VK6CSW
A balanced antenna matching unit 24
Ron Sanders VK2WB

COLUMNS

ALARA 36
AMSAT 38
AMSAT-UK 39
Bookshop news 37
Contests 41
DX – News & Views 48
Editorial Comment 2
Equipment review 18
Hamads 54
Help wanted 26
News from... 30
VK2 30
VK3 31
VK5 32
VK7 33
Over to you 53
Silent key 22
Silent keys 52
Spotlight on SWLing 19
VHF/UHF – an expanding world 46
WIA comment 3
WIA News 4

Our Cover this month

The sculpture, "Bajo el sol jaguar" by Mexican Antonio Nava Tirado, is part of the Broken Hill Sculpture Symposium in the Living Desert Reserve, close to Broken Hill. The translation of the sculpture's title is "Under the jaguar sun", and is reportedly best viewed at sunrise or sunset. © *Phil Morley. Image from BigStockPhoto.com*

The WIA AGM on 24 and 25 May will be an opportunity to view this stunning work of art first hand. For other attractions and accomodation visit http://www.visitbrokenhill.com.au/

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

Back Issues

Back issues are available directly from the WIA National Office (until stocks are exhausted), at $8.00 each (including postage within Australia) to members.

Photostat copies

When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society
Founded 1910

Representing

The Australian Amateur Radio Service

Member of the
International Amateur Radio Union

Registered Office of the WIA
10/229 Balaclava Road Caulfield North Vic 3161
Tel: (03) 9528 5962 Fax (03) 9523 8191
email: nationaloffice@wia.org.au
http://www.wia.org.au

All mail to
PO Box 2175 Caulfield Junction VIC 3161
Business hours: 10am – 4pm weekdays

National Office staff

Margaret Williams	Administration Officer
Dianne Ashton	Examination Officer
Brenda Edmonds	Office Volunteer

Board of Directors

President	Michael Owen	VK3KI
Vice-President	Ewan Mcleod	VK4ERM
	Robert Broomhead	VK3KRB
	Peter Young	VK3MV
	Trevor Quick	VK5ATQ
	Eddie Saunders	VK6ZSE
	Phil Wait	VK2DKN
Secretary	Geoff Atkinson	VK3YFA
Treasurer	Jim Baxter	VK3KE
Asst. Treasurer	Bruce Bathols	VK3UV

Coordinators

AMSAT	Graham Ratcliff	VK5AGR
ARDF	Jack Bramham	VK3WWW
Australian ARISS	Tony Hutchison	VK5ZAI
Awards	Michael Wright	VK5ARD
Clubs	Ted Thrift	VK2ARA
Contests	Phil Smeaton	VK4BAA
John Moyle Memorial Field Day	Denis Johnstone	VK3ZUX
Editor 'AR'	Peter Freeman	VK3KAI
EMC/EMR	Gilbert Hughes	VK1GH
	Keith Malcolm	VK1ZKM
Standards	Gilbert Hughes	VK1GH
	David Wardlaw	VK3ADW
	John Bishop	VK2ZOI
NTAC	John Martin	VK3KWA
Historian	Will McGhie	VK6UU.
IARU Region 3 Liaison	Michael Owen	VK3KI
Intruder Watch	Karl Hennig	VK6XW
International Travel Host	John Miller	VK3DJM
ITU Conference & study group	Gilbert Hughes	VK1GH
	David Wardlaw	VK3ADW
	Keith Malcolm	VK1ZKM
QSL Curator	t b a	
QSL Bureau & VK9/0 QSL Manager	Neil Penfold	VK6NE
Repeater	Peter Mill	VK3ZPP
Webpage	Colin Thompson	VK2TRC
WICEN	Ewan McLeod	VK4ERM

Editorial Comment

Peter Freeman VK3KAI

As you will see in both the President's Comment and in a detailed article on the process proposed for adoption , the issue of two-letter callsigns is about to take a series of steps towards resolution. For those interested, read both items carefully. There is also news in the article about the process for cases where an amateur with a two-letter callsign has become a Silent Key since the middle of 2006.

Contributions to AR

In this issue, I am finally able to publish an article that has been sitting in our article register for about two years. This was an unusual case, as we needed to await clarification regarding the issue of encryption of information in the LCD.

No, this is not the norm – most articles will take about three to six months to pass through the review and preparation process prior to publication. An article is first registered and then forwarded to one of the Technical Editors. Once the Technical Editor is happy with the text, any drawing will be reviewed and, if necessary, redrawn. The complete set of material then comes to the Editor for further review and publication – usually it is published when all others registered before it have been published, so that articles are normally published in the order that they are received. Occasionally, an article may be sufficiently topical or timely for it to be published more rapidly.

Cover photographs: AR and Callbook

We are always interested in receiving your contributions – not just articles, but also photographs that may be of interest to readers, and especially those that may be suitable for the cover of either AR or the Callbook. Guidelines regarding both articles and photographs are available from the AR magazine section of the WIA website, or via email from me. If in doubt regarding an image, forward a small version electronically, but indicate that the image is available in higher resolution. The higher the image resolution, the better the image will reproduce in the magazine or the cover. Even if we do not use the image immediately, we will consider it for future editions. Remember that we usually also have the Inside Back Cover available for good quality images and/or short items accompanied by a good image.

John Moyle Memorial National Field Day

From reading some of the email discussion groups, it sounds as if there was some reasonable participation for the John Moyle Memorial Field Day Contest. I was busy with work tasks and did not find time to get on-air. Even if you only gave out a few numbers to nearby stations on VHF and UHF, remember to send in a log. There are usually many more stations who participate in any contest than who send in a log. You may end up with a pleasant surprise at your score, as you can never tell who else will, or will not, enter their log. You may score well. At the very least, your log will be useful for the Contest Manager when he checks through all logs entered.

Callbook preparation

The Publications Committee is currently commencing the task of assembling the next issue of the Callbook, with the goal of having it published by early October. The tasks involved are not particularly onerous, with the biggest job being proof reading the contributed material. We are looking for volunteers to assist in the Callbook preparation. You should have internet access and be able to edit documents using Word or an equivalent word processing package. We are especially interested in finding someone skilled in the use of the outlining features included in Word. We are specifically looking for someone to coordinate preparation of the electronic version of the Callbook. If you are able and willing, please contact me in the first instance.

The listing of callsigns is prepared from the database maintained by ACMA, so make sure that ACMA has your correct details. As all WIA affiliated Clubs now have editing rights to the club details on the WIA website, we will be extracting the club data from that source. Note that it will be the responsibility of the club to ensure the correct data is included. We should be able to include data regarding clubs that are not affiliated with the WIA, but they will need to submit their information at an earlier time. Watch for more news on the process in the next issue of AR.

ar

Michael Owen VK3KI

An end to the Two-letter Callsign Saga

In the December 2005 "AR", under the heading "ACMA Freezes Issue of New 2-letter Callsigns Across Australia", the WIA noted that with the new amateur licensing arrangements callsign groups allocated to the Advanced licence now included all groups previously allocated to the Unrestricted, Intermediate and Limited licences, and that callsigns with two letter suffixes were in very short supply, and because of the anticipated high demand for two letter callsigns, ACMA was not then issuing them until an equitable arrangement for their allocation could be put in place, and that "it was expected that these arrangements would be notified shortly."

The last statement proved to be optimistic.

Soon there was quite a debate going on as to the appropriate way to allocate the available two-letter callsigns. Some argued that it was right and proper that all Advanced licensees should have an equal right to the two-letters callsigns while others argued that only those with a Morse qualification should have the right, while others argued that the right to a two-letter callsign should depend on the number of years that an amateur licence had been held.

The WIA continued to press for a resolution of the issue, and by April 2007, a year ago, we quoted a formal letter from the ACMA, again explaining the reasons for ceasing to issue two-letter callsigns "while an equitable arrangement for their allocation was being developed." The letter said "It is therefore anticipated that procedures to resolve this issue will be in place by the end of June 2007."

Once again, the last statement was over-optimistic.

By August 2007, we were reporting a formal meeting between the WIA and the ACMA, where among the matters raised by the WIA was the delay in the issue or re-issue of two-letter callsigns.

While all this was going on, or rather, not going on, a new issue had emerged.

A number of amateurs holding two-letter callsigns who had sought to renew their licence late found that their callsign was no longer available to them (or any one else) but had been quarantined by the ACMA.

While we must accept that the Radiocommunications Act imposes on the licensee of an apparatus licence the responsibility for renewing the licence, and there is no obligation on the ACMA to issue a renewal notice, it seemed to me that in a number of cases the amateur who had lost his callsign was able to show very good reasons why he had not renewed in time, and that it was fair and equitable that the callsign be re-allocated to him.

In fact, the Radiocommunications Act provides that the licensee may at any time during the period beginning six months before the licence is due to expire and ending 60 days after it expires, apply in writing to the ACMA for the licence to be renewed. I wonder how many amateurs are aware of this provision, or the extent to which the ACMA has drawn attention to it?

At long last this saga is coming to an end.

Following the decision of the ACMA that the WIA would undertake the amateur tasks to be outsourced, the resolution of the two-letter callsign issue has become the first matter to be addressed.

In this issue of AR you will find a statement setting out the proposed process for a ballot for the two-letter callsigns.

A copy of this statement is on the ACMA website, and another copy is on the WIA website.

I am very pleased to say that the ACMA has agreed to our request to review any case where an amateur has lost his two-letter call as referred to above, prior to the ballot process.

But do note that a new application for review must be made, even if a previous application has been lodged. Make sure that you include your ACMA client number, the licence number and the two-letter callsign that was lost in your application. If you know someone who may be affected, please do make sure that their attention is drawn to this process and the statement.

The details are set out in the statement, under "3. Pre-Ballot review". Please read that very carefully. "Yes, I forgot", or "the ACMA's renewal notice did not arrive" (or was lost) is not a reason that will succeed. But look carefully at the examples of reasons that may be acceptable. And also, note that documentary evidence is recommended. That could be a medical certificate, an overseas itinerary or it could be a statutory declaration setting out the circumstances. I do strongly urge anyone who believes that they have a proper case to support it with documentary evidence.

The application for a review must be lodged with the ACMA by 30 April 2008. The decision is a decision of the ACMA, not the WIA, and so the application must be sent to the ACMA.

Also, do look at the next section in the statement, "Callsigns of deceased amateurs". Here the WIA should be advised of the death of any amateur who died on or after 1 March 2006.

Finally, may I say this:

The ACMA has asked the WIA to conduct a ballot for the callsigns and the method proposed to be used is set out in the statement and comment is invited.

The invitation to comment is an important and serious part of this process.

Do let us have your comment. Because in undertaking tasks such as this, the WIA is to serve all amateurs, not only WIA members, (and that is why a fee will be charged to participate in the ballot), membership of the WIA is not relevant to the evaluation of comments.

Agreeing with the process proposed is just as important as an alternative suggestion.

I have always thought that ACMA's original decision to quarantine two-letter callsigns was not the best decision that could have been made. I do think that with the agreement of the ACMA to review, when requested, the loss of a two-letter callsign before any ballot, a ballot open to all who are qualified will provide the most equitable solution to a matter that has concerned many people.

ar

WIA News

WIA Board meets

The WIA Board met in Melbourne on Saturday 1 March and Sunday 2 March 2008.

It was the first face to face meeting attended by new Director, Eddie Saunders VK6ZSE, and probably the last for retiring Director Trevor Quick VK5ATQ. Most of the work of the Board is carried on through email and phone.

During the weekend the Directors were joined for tea breaks and lunch breaks by Margaret Williams and Dianne Ashton from the WIA office, Graham Kemp from the WIA broadcasts and Fred Swainston, for the WIA's nominated Registered Training Organisation.

The Board reviewed all WIA activities and the present negotiations with the ACMA in relation to the outsourcing of certain functions.

On the financial side the Board was assisted by Evan Mudie, from the WIA's auditors, and Jim Baxter, retiring WIA Treasurer.

It was agreed that attracting new amateurs remained very important and looking to other parallel interests, such as boating, was seen as a useful approach.

The Directors discussed the WIA's requirement for premises at some length, and it was agreed that the present arrangements, with an office with inadequate meeting space, and with inadequate storage (the WIA pays for separate facilities) did not meet the organisation's present needs.

The arrangements for the WIA's AGM at Broken Hill were reviewed.

Board reviews Club Grant Scheme

At their recent meeting in Melbourne, the Directors considered the WIA Club Grant Scheme and made some changes for the Scheme in 2008.

In submitting their report to the Board in August last year, the Grant Committee commented on the lack of projects involving new technology or innovative projects, suggesting that the WIA should consider promoting innovations in special interest areas. The Committee commented that many clubs have an overwhelming focus on operating and maintaining repeater communications.

In September last year, the WIA Board requested comment on the Club Grant Scheme, particularly on the issues raised by the Club Grant Committee.

A number of the comments argued that the repeaters were at the core of many clubs activities, and should not be disregarded. A number commented on encouraging focused activities, seeking to attract new amateurs or new WIA members. The Scheme was generally supported.

The Directors carefully considered the thoughtful submissions that had been made, and were attracted by the suggestion made in a number of ways that there be two parts to the scheme, one encouraging innovation, the other supporting more usual club projects and activities. The Directors also thought that a limited number of grants were preferable to a large number of small grants.

Accordingly it was decided that the WIA will again conduct a Club Grant Scheme in 2008, this year with the total grant increased to $6,000.

The Scheme will be broken into two parts, one part providing for up to three grants of up to a total of $3,000 for useful but not innovative projects or activities, including projects involving repeaters or associated links.

The other part will be for projects or activities that are innovative, with provision for up to three grants up to a total of $3,000.

The WIA Board is grateful for the thoughtful and helpful submissions received, as well as the helpful observations of the Grant Committee.

Details of the 2008 Scheme will be published shortly.

WIA Awards Program

The WIA Awards Program is seen as one of the world's best, thanks to retiring Awards Manager Malcolm Johnson VK6LC.

Managing the WIA Awards involves not only a great deal of administrative and organisational effort in validating claims for awards but also requires a good knowledge of DXing in applying the award conditions in a consistent and reasonable manner to maintain the integrity of the awards.

The WIA Board has now created an Awards Committee headed by the Awards Manager.

The Committee will bring together a group of experienced DXers, providing valuable assistance and guidance for the Awards Manager and adding credibility to the Program.

The WIA has appointed Michael Wright VK5ARD as the new WIA Awards Manager.

The members of the Awards Committee are:

- Martin Luther VK7GN
- Dale McCarthy VK4DMC
- David McCauley VK3EW
- Alex Petkovic VK6APK

The address for the WIA Awards Program is:

Awards Manager
WIA National Awards
PO Box 752
Roxby Downs
South Australia 5725
Australia

Brisbane D-STAR Club announced

At their recent meeting in Melbourne, the WIA Directors decided to identify the Brisbane D-STAR club.

Last November, concurrently with the commissioning of the D-STAR repeater to serve the Melbourne area, Icom Australia and the WIA announced the gift by Icom of 5 further D-STAR repeaters to the WIA so that a D-STAR repeater can be commissioned to serve each of the other state capitals.

The Directors, acting on the advice of the Queensland Advisory Committee, and after consultation with Icom Australia, announce that the Gold Coast Amateur Radio Society Inc. shall be the D-STAR club to serve the Brisbane area.

The Second Edition "Foundation Licence Manual–Your Entry into Amateur Radio", coming soon

The second edition of the WIA's very successful "Foundation Licence Manual" is currently in the final stages of production and copies from the printer are expected early April.

continued on page 19

Ballot for Two Letter Callsigns

Purpose

This paper:

- sets out a proposed process for the equitable allocation of amateur callsigns with two letter suffixes (two letter callsigns) in accordance with the Principles specified by the Australian Communications and Media Authority (ACMA); and
- invites comment from the amateur community on the proposed process.

This paper will be published in the April issue of the WIA magazine "Amateur Radio" and will be placed on the WIA website http://www.wia.org.au/ at the beginning of April. It will be further publicised on at least three occasions in April during WIA broadcasts. This paper will also be published on the ACMA website: http://www.acma.gov.au/

Subject to the approval of ACMA, following the consultation process the WIA will publish a final document setting out the process for allocating two letter callsigns. It is expected that this will occur in early May 2008. The final document will be published on the WIA website and will also be available on the ACMA website.

Background

In 2003-04, the Australian Communications Authority (ACA) carried out a Review of Amateur Service Regulation (the Review). The ACA conducted extensive consultation with the Amateur community throughout the Review process. The findings of the Review were published in *Outcomes of the Review of Amateur Service Regulation*. A key Outcome of the Review was the decision to consolidate amateur licence options and certificates into three options: foundation, standard and advanced. This outcome was implemented on 20 October 2005.

Prior to these reforms, only holders of amateur unrestricted licences were eligible to hold a two letter callsign. One result of the new arrangements was that Amateurs who previously held amateur limited and amateur intermediate licences became eligible to hold a two letter callsign under the new arrangements. This resulted in a high level of demand in some states and territories that could not be met by available supply. Accordingly, on 19 October 2005 ACMA suspended the issue of two letter callsigns until an equitable arrangement for their allocation could be put in place.

On 7 February 2008, ACMA introduced several more outcomes of the Review. These reforms included a series of changes to Amateur licence conditions and the introduction of a class licence to authorise amateurs visiting from overseas. In addition, to streamline services for Amateur licensees, ACMA decided to delegate certain statutory functions and administrative services associated with Amateur licensing to the WIA.

As part of these arrangements, ACMA has requested that the WIA manage a fair and transparent ballot process for the allocation of two letter callsigns in all states and territories in Australia (the "Ballot"). Two letter callsigns will be available on an equitable basis to all qualified operators who are eligible to participate in the Ballot.

Principles

The WIA is required by ACMA to give effect to certain broad principles and conditions in regard to how the Ballot should operate. These are:

Eligibility.

This should be limited to holders of amateur (advanced) licences (or a certificate of proficiency that would entitle the holder to an amateur (advanced) licence. Applicants should only be able to apply for a callsign in the state or territory in which they reside.

Equity.

Ballot process to be impartial (with an independent or ACMA representative present). Amateurs should only be eligible to participate in the ballot if they do not already possess a 2 letter callsign. In addition, each applicant should be limited to one 2 letter callsign.

Preference.

The ballot process should enable amateurs to express their preferences for individual callsigns prior to the Ballot. A list of available 2 letter callsigns should be made available to applicants prior to entry.

Charges.

The WIA may charge an entry cost for the ballot that is reasonably related to the cost of the process.

Outcome.

The WIA is to finalise results of the Ballot and advise ACMA the names of applicants who were successful in the Ballot together with the 2-letter callsign they should be issued with if an application to vary their licence is submitted.

Request for comment

The WIA is seeking comment on the proposed process for the Ballot. Topics for discussion include eligibility requirements, the pre-Ballot review, the Ballot methodology, the application process, the timeframes involved or any other matter relating to how the Ballot process is proposed to operate. Comment is invited as follows:

By mail addressed to:
Two Letter Comment
The Wireless Institute of Australia
PO Box 2175
Caulfield Junction
Victoria 3161

By email addressed to:
2lettercomment@wia.org.au

By facsimile to:
Two Letter Comment
03 9523 8191

All comments must be received by the WIA on or before 4 pm Australian Eastern Standard Time (AEST) **Wednesday 30 April 2008**. Any comment received after that time may not be considered.

Pre-Ballot review

A number of amateurs have "lost" their two letter callsigns since 19 October 2005 as a result of their failure to renew their apparatus licence prior to or during the embargo. Some of these amateurs have sought re-allocation of their previous callsign on the basis that their failure to renew was due to exceptional circumstances.

ACMA has agreed to the WIA's request to consider cases for review

continued on page 14

Fox hunting antennas for 2 metres

Bill Isdale VK4TWI

A popular activity when the Club gets together is 'fox' hunting, often on 2 metres. It raises the competitive spirit as teams form up to find the elusive hidden transmitter. The fox is commonly a low powered FM transmitter operating either continuously or intermittently, depending on the ingenuity of the maker. Hidden somewhere, it will broadcast its signal as the hunters set out, in vehicles or on foot, to find it.

The most useful tool for locating the fox is a directional antenna. It can be connected to something as simple and readily available as a handheld 2 metre rig or as sophisticated as one of the purpose designed and built receivers with variable sensitivity so that, as the target is approached, the sensitivity of the receiver can be progressively reduced to avoid the equipment becoming useless once overloaded by proximity to the transmitter. This is a very valuable feature since at the beginning of a hunt the transmitter may be several kilometres away and a receiver useful at that range will become overloaded well before you get within sight of the quarry. Keep in mind that the fox will often be invisible until you are virtually touching it. If using a 2 m transceiver as your detector, you can attenuate the incoming signal when necessary by simply tuning a little off frequency.

The ideal antenna is one that can be used with a vehicle on the move and also handheld once the area of interest is reduced sufficiently. It may be that more than one antenna is needed but reducing the amount of gear that has to be hauled around will make for a more mobile hunter. My first attempt at a directional antenna was a design that is fast and easy to make at fairly low cost; ideal for an experiment. The requirements are a piece of 2 x 4 cm pine a little over a metre long with brass tube from a hobby shop and some 12 gauge solid copper wire that I had on hand; a few cable ties and some coaxial cable completed the picture.

There is much known about designing Yagi antennas and varying the spacing of the elements so as to achieve a particular result such as maximum forward gain or a high front to back ratio. The individual can choose so I will not try to be prescriptive. My first design incorporates 3 elements, the radiator

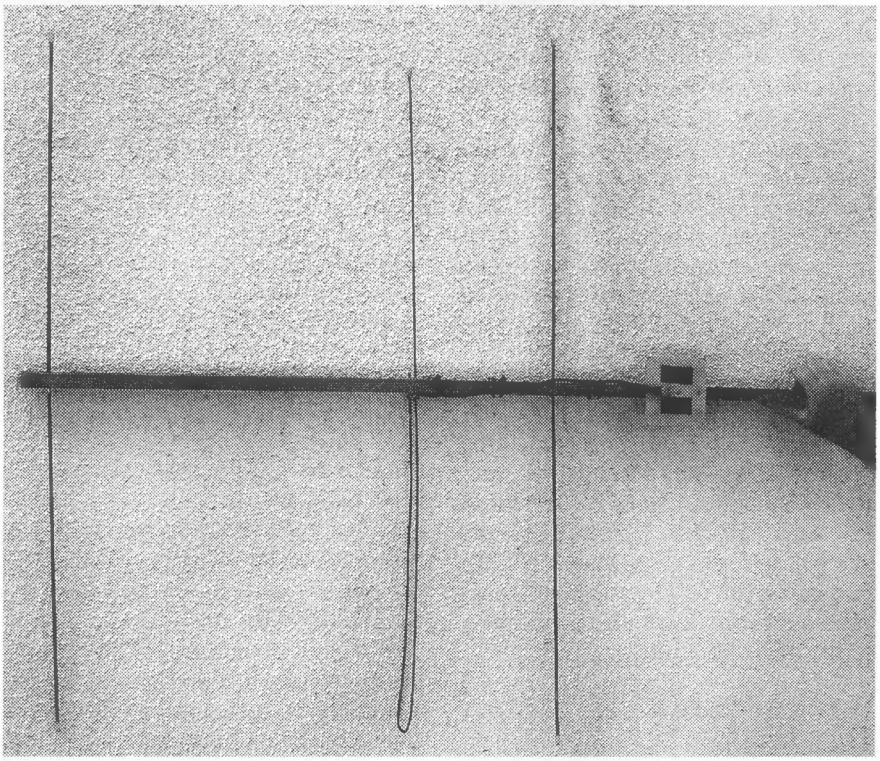


Photo 1: The copper and brass element beam.

with a reflector behind it and a director in front. This provides a simple means of achieving directivity and a good front to back ratio but these features are achieved by sacrificing the compactness that could be realized with only 2 elements, dispensing with the director. The active element could be a half wave dipole; that in theory is the preferred design.

In practice, it is not so easy to anchor the two sides of a dipole to such a slim piece of timber so that it will survive the use to which it will be put. I opted to use a J design made of the solid copper wire. The spine of the antenna is drilled with 2 holes about 2.5 cm apart vertically so that the wire is a snug fit and the overall length of the radiator, in my example, is 94 cm. To achieve this you need a length of solid wire sufficiently long to be curved back into the J shape and run through the spine of the antenna and then say 8 cm or so out the other side. Leave that length for now as by trimming it later on, once the antenna is built, you will be able to tune it to the desired frequency of operation. Solid copper wire suitable for the task is sold by the vendors of copper and brass in lengths of about 1.5 m, which is ideal. I found that a sample of the wire was helpful to have at the hobby shop when looking for the small diameter brass tube as I was able to find tubing that the wire fitted snugly inside. This is very convenient if it becomes necessary to extend the tubing in order to make an element of the correct length. The brass and copper

solder together easily. If you prefer, it will probably be possible to find some smaller diameter brass tubing to fill the same role. I used a spacing of 20 cm from radiator to reflector and 90 cm from radiator to director. My radiator is 94 cm long when measured as one horizontal element, the reflector is 103 cm and the director 93 cm. I am providing these dimensions only as an account of what I built, as each builder may wish to adapt the design to their own preference of performance.

The coaxial cable that I used, RG 58, is soldered to the radiator close to the spine of the antenna for maximum protection from accidental damage and the cable is secured by cable ties. I have added a plywood platform with Velcro on it to attach a receiver when the antenna is being used handheld. The antenna is best tuned to the correct length to be resonant on the frequency of the fox, by using an antenna analyzer. The protruding stub of the radiator can be trimmed until the antenna is resonant on the chosen frequency. While the antenna analyzer is connected, a pair of wire cutters can be used to snip off a little at a time. If you go too far, some of the copper tube can be soldered on to extend the element and overcome the error. The tubing is easier to clip than the wire and this design allows you to be sure to get the tuning right. A more technically pure method is to make the radiator as if it were a J pole and match it by finding the point of correct impedance, and soldering the connection there.

It needs to be recognized that the actual radiation lobe from the antenna, and therefore the pattern of its sensitivity, will be determined by the size and location of the elements with respect to each other and although this can be modelled, using the antenna in the field will expose it to all manner of reflections from objects and structures so that real world performance may be different from what can be theoretically predicted. Use of this antenna has shown it to be very effective in practice. It is necessary for safety to glue some soft tips to the director and reflector. The design of the radiator makes it unnecessary to do this so that particular source of a detuning influence has been eliminated. An alternative to the brass tubing would be to make the elements all from wire. I chose to use tubing to avoid the bending which would have come with using wire. It would sag if used for the reflector and director. The folded design of the radiator stops that from occurring. The disadvantage of tubing is that it costs more than wire and, if bent, is more likely to need replacing.

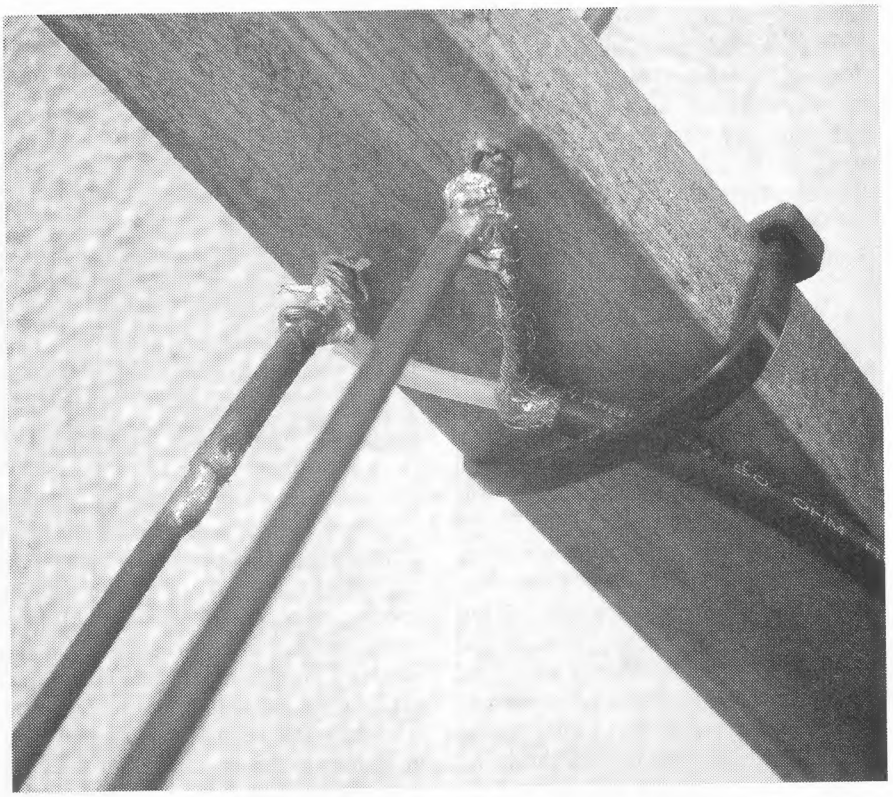


Photo 2: Attaching the coax.

In the field, this antenna is light enough for use in one hand and has good gain and directivity with a useful front to back ratio. Its disadvantage is its size, making it a little large for use in heavily wooded areas. On a vehicle, a Yagi antenna needs to be 20% of a wavelength from metal (such as a car roof) to avoid it acting as a reflector and distorting the pattern. Placing it inside the car allows it to work reasonably well as the glass is as transparent to radio as it is to visible light and the influence of the metal roof above it is less detrimental than if the metal was below it where it would be reflecting the radiation pattern, and hence the reception lobes, upwards.

Another approach to a fox hunting antenna is to build a simple 2 element design with foldable and extendable elements. To achieve this, a trip to a discount store will yield two sets of rabbit ears type television antennas for just a few dollars each. The two sides of the collapsible elements will be soldered to some 300 Ohm ribbon cable. Remove that and replace it with some RG-58 coaxial cable. That is the radiator; it can be extended to resonant length for use, marked at that point with a marker pen and collapsed for easy transport and storage. The other set of rabbit ears has the ribbon cable removed and a piece of wire soldered across to bridge the two sides. That is our reflector. At a bit of a loss as to how to fix it to the 90 x 2 x 4 cm piece of pine that cost a whole dollar, I 'temporarily' tied it on with cord. I made the spacing 95 cm and use the element at 101 cm length and the reflector at 107 cm. With this design it is very easy to adjust the element lengths and spacing at any time. The rabbit ears fold up so if mounted facing the correct way, they can be folded back along the wooden spine for easy storage, the antenna taking only a few seconds to be brought into readiness.

This design is especially good for use in brush as the elements are positioned to fold back when bumped. They are quickly put back in place with no damage. As fox hunting may be conducted at night, I have put reflective tape, available at an auto parts shop, at several points. This

lights up brilliantly in car headlights. The wise fox hunter also wears light coloured clothing for safety. This simple antenna has very low cost and is fast and easy to make and to adjust. It is safe and easy to use and tolerant of the environmental obstacles commonly encountered.

A further step in fox hunting antennas is one that can be quickly attached to a car, in my case through a sunroof and easily detached to be used hand held. This antenna emerged from a discussion with Doug Hunter VK4ADC, at OzGear.

While admiring the well built range of Yagis that he has designed and constructed for 6 and 2 metres, as well as 70 cm, I asked what was available for fox hunting, a rather specialized application. I found confirmation that there was nothing available commercially but Doug, a vastly experienced ham, helped me to define my requirements, measured up my car's sunroof and proceeded to custom design and build an antenna with a very high front to back ratio, and

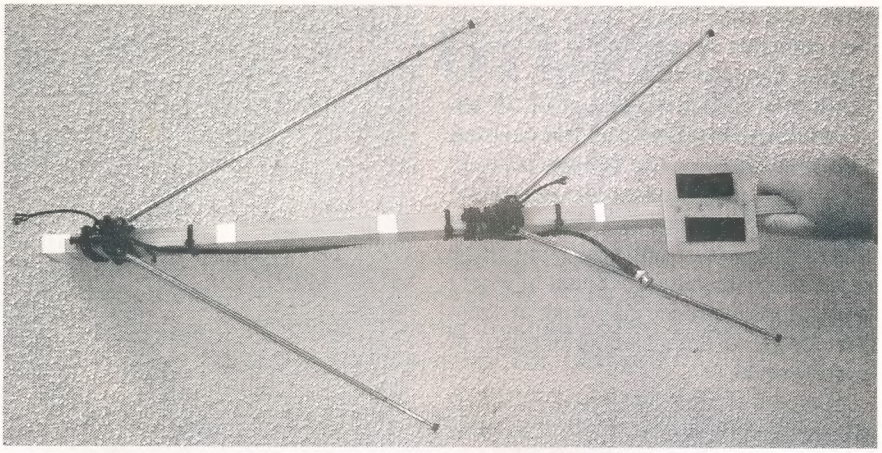


Photo 3: The simple hand held beam.

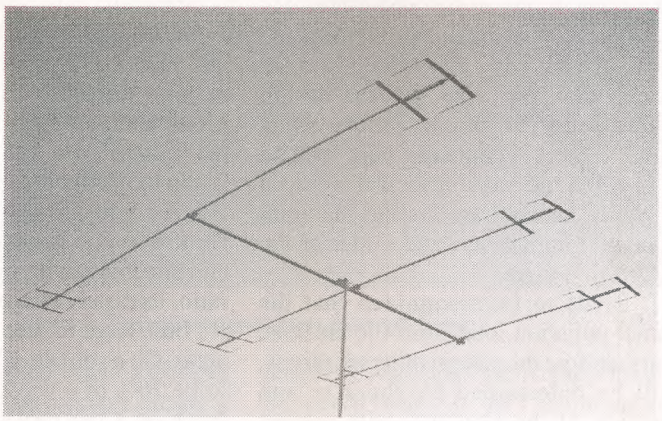
fittings that allowed it to be mounted through the sunroof without any holes needing to be drilled. It is quickly and easily unclipped to be hand held. When in place on the car, it can be rotated easily by a passenger in the rear seat who has the receiver and provides directions to the driver. This allows for fast and easy fox finding. The finished article was very economical in view of the development that went into it and it is solidly constructed. I have found that with this on the car the simple hand held beam gets used for zeroing in on the fox when the car can go no further.

ar

TET-EMTRON

TE-33M THREE ELEMENT TRI-BAND MINI BEAM

If you haven't got the room for a full size three element beam, but you want more gain than the two element TE-23M, then this is for you.



SPECIFICATIONS	
FREQUENCY	14, 21, 28 MHz BAND
MAX.ELEMENT LENGTH	5520 mm
BOOM LENGTH	4.0 mm
GAIN	6 / 6 / 7 dBi
FRONT TO BACK RATIO	20/ 15/ 14 dB
FEED IMPEDANCE	50 ohm
TURNING RADIUS	3.74 m
WEIGHT	12 kg
POWER RATING	2 kW PEP

*ALL 6000 SERIES ALUMINIUM CONSTRUCTION.
*ALL STAINLESS STEEL HARDWARE.
*2 kW PEP POWER RATING.
*3.74 METRE TURNING RADIUS.

FOR RECOMMENDED RETAIL PRICE CALL MARK, YOU WILL BE PLEASANTLY SURPRISED

If you already have a TE-23M, you can purchase the extension kit containing extra boom, director element, and everything you need to upgrade to this antenna..

See Website www.tet-emtron.com all prices and for dealer list.

RAWMAR ENTERPRISES

40 Blackburn Street,
STRATFORD.
Victoria. Australia. 3862

Ph: 61 3 5145 6179
Fax:61 3 5145 6821
Email: rawmar@hotkey.net.au
ABN: 87404541761

A better way to encrypt messages?

Simon Rice VK8ZJZ
vk8zjz@iinet.net.au

In "Are you ready for action? (part 2)", published in *Amateur Radio* for December 2005, Bill Isdale VK4TWI demonstrated the need for strong encryption keys and suggested that packet radio could be a good option for sending secure messages in times of emergency. This is certainly a good idea. However, RTTY, PSK31 or some other digital modes could also be used if no BBS were available. Bill also suggests a method of distributing encryption keys in sealed envelopes to be opened in an emergency. In this article I will look at some of the problems with conventional encryption systems, and how these problems can largely be overcome.

Problems with conventional (symmetric) encryption

Key management

How to securely distribute the keys? While distributing keys in sealed envelopes is a good idea, it still has problems. If the keys are distributed in advance how do we guarantee security? If the keys are stored in a central location they need to be distributed when needed which means the time to get up and running is increased. The need to generate and securely distribute a new key if a key is lost or stolen is also a problem. If the keys are in use, then communications must stop until everyone has the new key. Also, if the keys are distributed in advance and someone leaves the organisation, the sealed envelope needs to be recovered, or a new key generated and distributed. As you can see, key management soon becomes a problem.

Data integrity

Data integrity is also a problem with symmetric encryption systems. If the key has been unknowingly compromised there is no way to tell if the message has been altered by a third party in transit. This is known as a 'man in the middle'

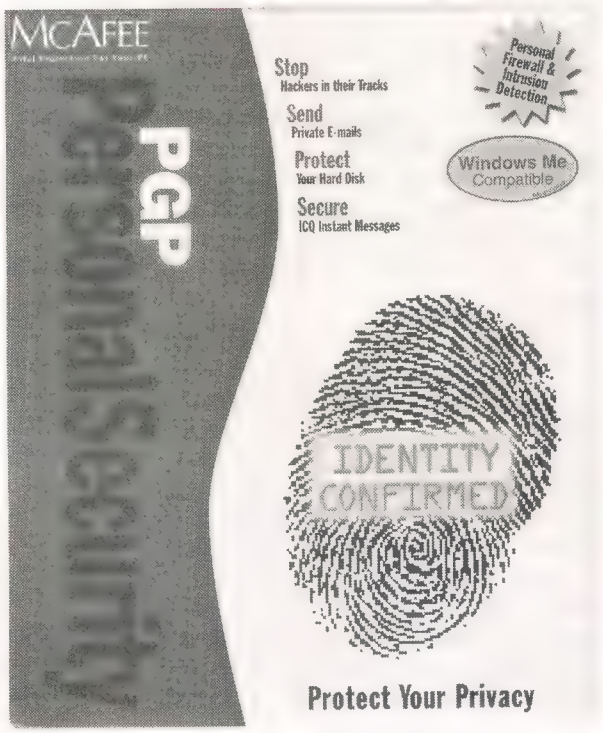


Figure 1: An example of commercially available software. This package was purchased a few years ago and is still in use.

Australian made
ANTENNAS
Setting a new standard
COM-AN-TENA
(formerly a j and j coman)
115 John Street
GLENROY 3046

NEW 10-15-20 vertical antenna	$225
2 ele delta loop 10/11 metre	$275
40—80 metre vertical NEW	$330
10/11 beams comp opt 5 ele	$399
10/11 5/8 vert 4 rad 1/4 wave	$224
Tri band HB 35 C 10/15/20 m	$844
NEW 3ele 20 m Confined space Antenna Max. Width 7 mtrs wt 11kg gain 7dBd	$425
log periodic 9 ele 13 30 8.4 m boom	$1152
NEW 160 m Vertical SUBURBAN	$355
M B Vert auto switch 10/80 m	$345
NEW 2 ele 40 m wdth 13.4 gain 5.2 dBd wt 27 kg boom 6.1 mtrs	$574
6 m 5 ele comptr opt beam	$309
Top loaded 160 m vert	$474
10 ele high gain 2 m 3.9 m boom	$180
17 ele high gain 70 cm 3m boom	$152
NEW 80 m lin loaded height 15 metres Drives as 1/4 wave antenna	$246

Guyed Masts
21 metres 13 metres
Winch-up & tilt-over. Aluminium and stainless steel three-sided construction. Auto-brake winches.
Free Standing Masts
9.5 metres
New Baluns
1-1 to 16-1 to 3kW
Our Masts meet Australian Standards. We supply all the computations and data you will need for a permit.
03 9773 3271
Mob 0419 542 437

attack. While not a real problem for direct modes like RTTY or PSK31, it is a problem for unattended modes like email or packet where the message could be altered on the server before the intended recipient downloads it.

Nonrepudiation

A definition: *In reference to digital security, nonrepudiation means to ensure that a transferred message has been sent and received by the parties claiming to have sent and received the message. Nonrepudiation is a way to guarantee that the sender of a message cannot later deny having sent the message and that the recipient cannot deny having received the message.*

So, if I have a stolen copy of the key, I could change my call sign to that of an authorised user and send a message. The recipients have no way of knowing that the message was not sent by the person I was impersonating. This could be a real problem if we are sending messages on behalf of emergency services. All sorts of false information could be sent and acted upon before it was discovered. Who would get the blame? The person whose call sign I had faked and they would have no way of proving otherwise!

"Hey, Old Timer..."

If you have been licensed for more than 25 years you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for **less than 25 but more than ten years**, you are invited to become an **Associate Member** of the RAOTC.

In either case a **$5.00** joining fee plus **$8.00** for one year or **$15.00** for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to
RAOTC,
PO Box 107
Mentone VIC 3194
or call Arthur VK3VQ on **03 9598 4262**
or Bill VK3BR on **03 9584 9512**,
or email to raotc@raotc.org.au
for an application form.

There has to be a better way!

Public Key/Private Key encryption (asymmetric encryption) uses two keys; one key to encrypt, the other to decrypt. The key used to encrypt messages is called a public key and the key used to decrypt messages is a private key. Each person has their own unique public/private key pair. As long as the private key is kept secure the public key can be given away to everyone. It is of no consequence if everyone has my public key, as it can only be used to encrypt messages to me but not decrypt them.

Key management and data integrity

Key management becomes easier as we can distribute the public keys via download from a web site or some other communication mode without having to worry about unauthorised users getting them. After all, they are public keys.

Data integrity is also taken care of, as the public keys can only be used to encrypt messages. So, if someone has my public key, and intercepts a message to me, they can't decrypt it anyway. The software available for this type of encryption also includes a key generator. While generating your public/private key pair, it uses your pass phrase and an entropy generator. This helps make the keys stronger, thus harder to break.

Nonrepudiation

A digital signature is created by running message text through a hashing algorithm. This yields a message digest. The message digest is then encrypted, using the private key of the individual who is sending the message, thereby turning it into a digital signature. The digital signature can only be decrypted by the public key of the same individual. The recipient of the message decrypts the digital signature and then recalculates the message digest. The value of this newly calculated message digest is compared to the value of the message digest found from the signature. If the two match, the message has not been tampered with. Since the public key of the sender was used to verify the signature, the text must have been signed with the private key known only by the sender.

Conclusion

Symmetric encryption has been used successfully for hundreds of years, and is still useful today. The main problem is key management. Asymmetric or public key/private key overcomes this problem. It is also important to remember that no encryption system is unbreakable. In fact, it doesn't need to be. It only needs to be strong enough to protect the information until it has lost its value. For emergency radio traffic this may be from as little as a few hours to a few years.

Software

There are two products available, a commercial product PGP which works with Windows, and GPG which is freeware and compatible with PGP (as long as PGP is not using the idea algorithm). GPG works with both Linux and Windows. Both programs are available for download from the following sites:

GPG: http://www.gnupg.org/

PGP: http://www.pgp.com/ or the older version is downloadable free from http://www.pgpi.org/

A Windows shell extension for GPG called GPGee can be downloaded from http://gpgee.excelcia.org/ - the shell extension puts GPG encryption and decryption options into Windows Explorer's right mouse menu.

Editor's note:

This article has been awaiting publication for almost two years. This is not the norm. The article has been withheld until the new LCD amendments were released, which clarify the situation regarding the passing of encrypted messages. The context of this article clearly falls inside the approved use of encryption – during the passing of messages under emergency conditions, or when training for such conditions. Readers should note that the circumstances when encryption of messages is allowed are very limited – you should check the new LCD.

ar

A combined MF-HF SWR meter and RF ammeter

Drew Diamond VK3XU

With the stimulating possibility of gaining a frequency allocation near 500 kHz, thoughts naturally turn to the problem of measuring SWR in antenna work down on 600 m. Ordinary directional-coupler SWR meters, the most common type in amateur and CB work, have an unfortunate characteristic where they become less sensitive as the operating frequency is lowered.

A better pattern is the 'current transformer' method (lucidly outlined in Reference 1). The prototype model is an improved version of that offered in Reference 2. Sensitivity is quite uniform from less than 500 kHz to at least 30 MHz, and requires less than 5 W power flow for full-scale forward indication, yet may be safely used at the full legal limit (400 W PEP). Insertion loss is measured at 0.1 dB. Contrary to the opinion of some observers (who have based their findings on incorrect assumptions), inclusion of the SWR meter in-line causes no measurable harmonic generation. An in-line RF ammeter is useful in estimating power, so I have incorporated one in this instrument. Being a peak responding meter (but indicating RMS value), quite accurate measurement of CW or PEP power may be obtained under low SWR conditions.

Circuit

The SWR configuration is based upon the instrument outlined in References 1 and 2, but with modifications to make use of locally available parts, and to provide for improved low frequency response and power handling.

See Figure 1 for the schematic. When radio frequency energy is flowing from the Tx to Ant(enna) connectors, an electromagnetic field is established in the short length of RG-8 line that passes through the opening of toroidal current transformer T2, where the relative strength of the magnetic component produces a proportional voltage in the 13 turn secondary winding. The coax outer conductor is grounded at one end only to provide an electro-static screen between the inner line and the winding of T2. The relative strength of the field's electric component is sampled by the voltage divider comprising a 4.7 kΩ resistor and a 500 Ω trimpot.

When the Ant connector is presented

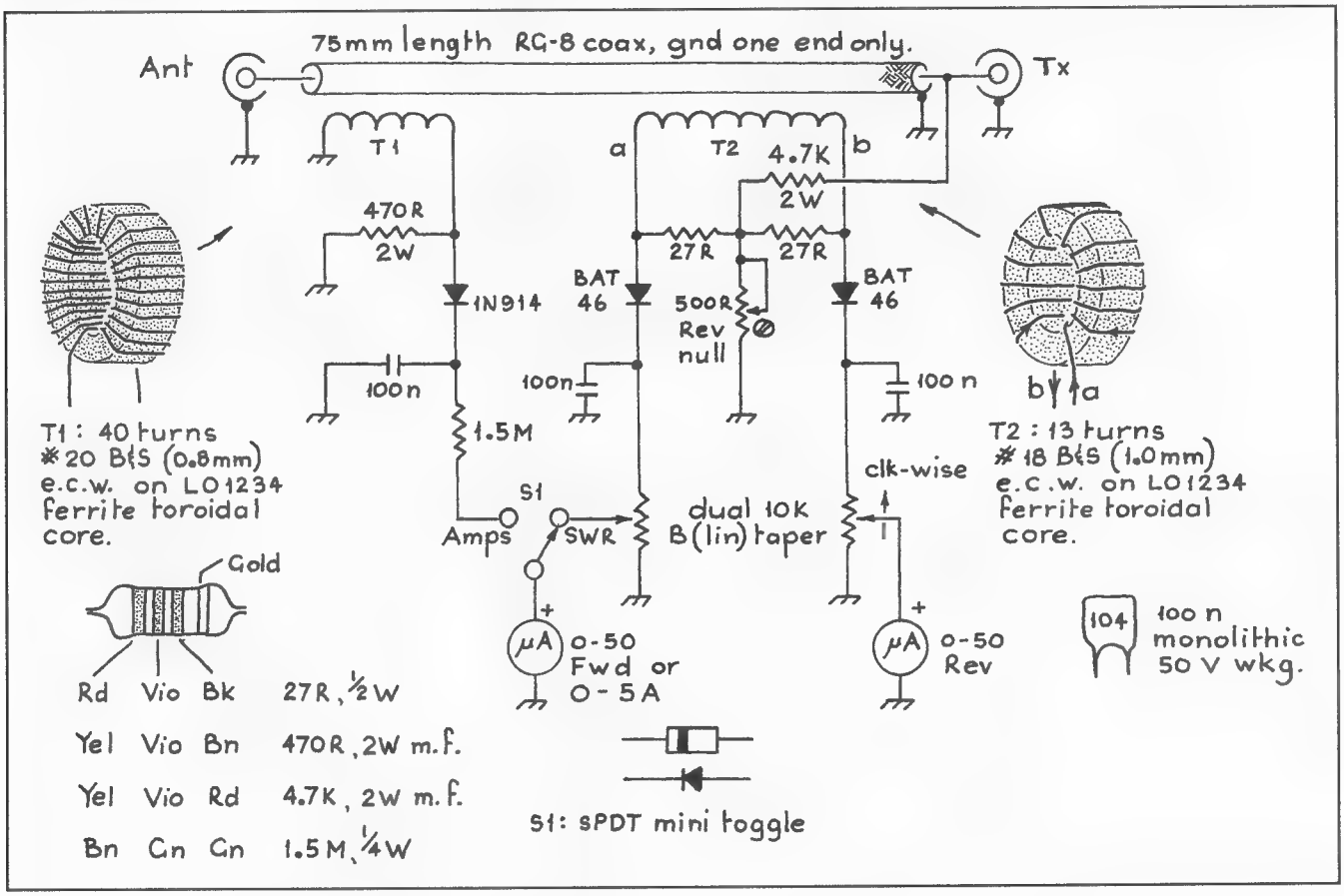


Figure 1: Schematic diagram of the combined MF-HF SWR meter and RF ammeter.

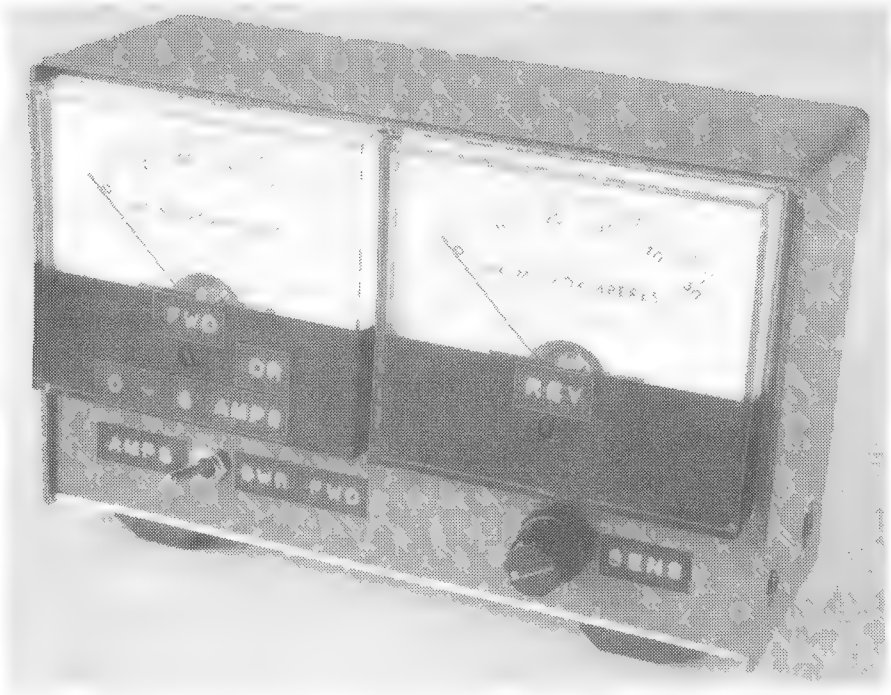


Photo 1: The combined MF-HF SWR meter and RF ammeter.

with a non-reactive impedance of 50 Ω, the voltage established at the 'summing point' junction of the two 27 Ω resistors will add with voltage obtained from the secondary of T2 at one end of the winding and exactly cancel (oppose) at the other. Should the terminating impedance differ from 50 Ω resistive, exact cancellation will not occur, and the degree of mismatch may be detected.

BAT-46 Schottky diodes provide best sensitivity as detector elements in this instance.

The resulting DC signals are displayed on two 50 µA meters. One reads relative forward power, settable to FSD (full scale deflection) by use of a dual 10 kΩ pot, and the other reads relative reverse power.

For in-line RF current measurement, the line also passes through the opening of a ferrite toroidal 'current' transformer T1 (References 3 and 4) with a secondary winding of 40 turns. An advantage of the current transformer plan is that the device is thoroughly replicable, and does not need individual calibration. The existing 0 - 50 scale of the meter registers 0 - 5 A directly (to a continuous maximum of 3 A, which represents a power flow of 450 W).

Let us take an example where a power flow of 50 W into a 50 Ω non-reactive load causes 1 A in the line. The turns ratio is 40:1, so 1/40th of 1 A will flow in the 470 Ω terminating resistor. 1/40 = 0.025 A (25 mA). The voltage established across 470 Ω will be .025 x 470 = 11.75 V RMS. A silicon signal diode will produce a voltage of about

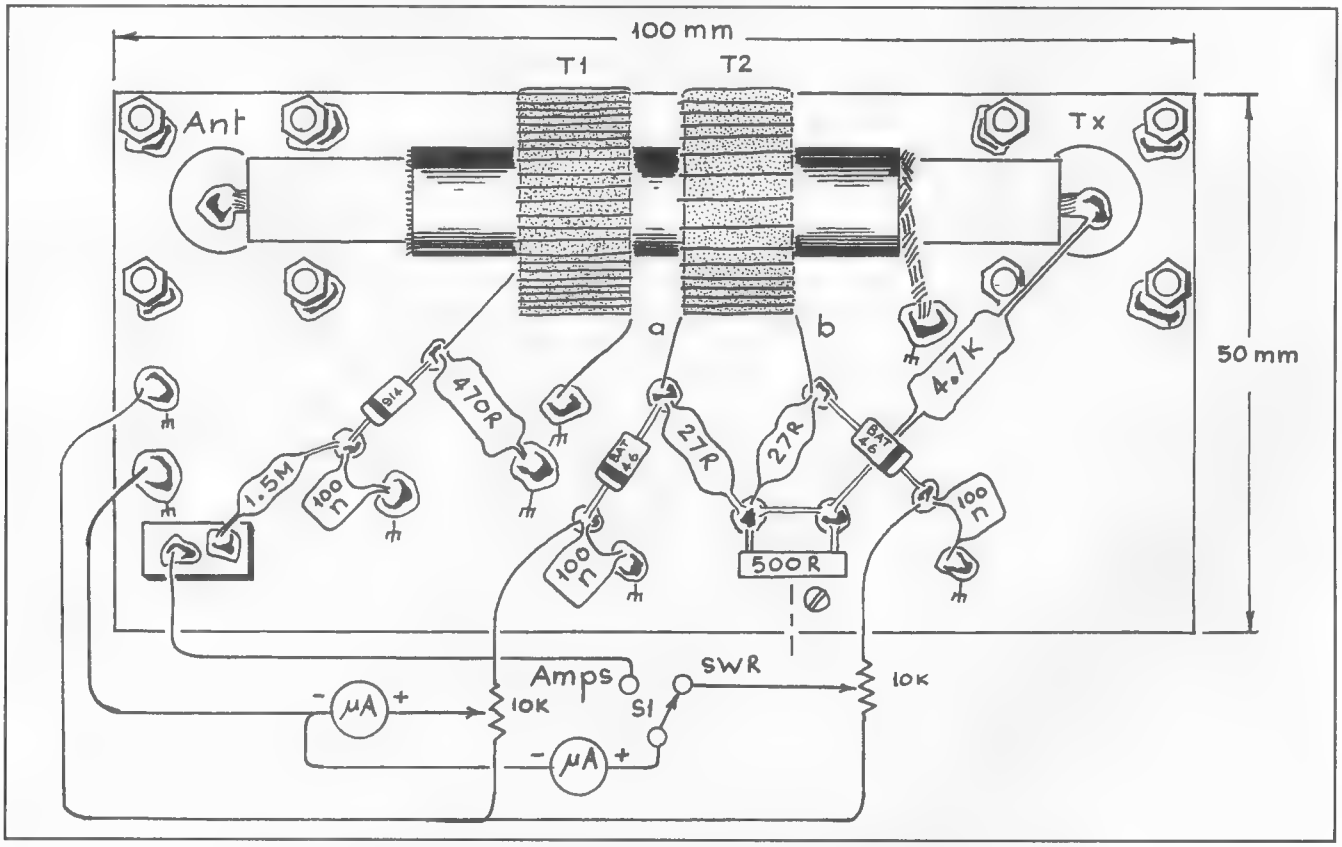


Figure 2: A suggested 'ugly/paddyboard' style layout for the SWR meter and RF ammeter.

1.3 times input RMS across the filter capacitor. 1.3 x 11.75 = 15.275 rounded to 15.3 V dc. For the chosen 0 - 50 µA meter, we therefore require that 10 µA (indicating 1 A) shall flow through the meter's coil. In practice it is found that a standard 1.5 MΩ 'multiplier' resistor is just right in this instance. If greater ammeter sensitivity is required for QRP work (e.g. 0 - 0.5 A), the multiplier resistor should be 150 kΩ (see Reference 5 for details).

Construction

The prototype model is housed in a home-made aluminium box measuring 100 x 170 x 60 mm HWD. A die-cast or sheet-metal or plastic box of similar dimensions should serve, depending on the size of your meters.

The components of the ammeter and SWR circuit are accommodated upon a rectangle of single-sided circuit board measuring 100 x 50 mm. A suggested 'ugly/paddyboard' style layout (Reference 6) is illustrated in Figure 2 and Photo 2. Component leads which carry RF must be reasonably short. Use coax connectors suited to your set-up – the popular SO-239 is suggested. Note that the RG-8 outer braid is connected to ground foil at one end only. A rectangle of insulation (example plastic from a lemonade bottle - visible in Photo 2) should be inserted under the toroids to prevent their windings from shorting to ground foil. The toroids may be fixed in position with a blob of hot-melt glue. Wiring that carries DC only to the dual 10 kΩ sens(itivity) pot, switch S1 and meters may be done with ordinary hook-up wire of appropriate length.

Operation

Inspect your soldering for quality and accuracy and confirm that the diodes and meters are wired correctly.

To check operation of the ammeter, and for setting the SWR Rev(erse) null trimpot, we require a terminating device, such as a dummy load or power meter that is known to have a very low SWR. Or, consider making a test termination (like that shown in Photo 3) as follows.

Two 100 Ω (2 W) metal film (mf) resistors are fitted into an ordinary PL-259 plug. To reduce stray lead inductance, a section of the connector's wall may be removed (with a hack-saw - the separated portion is shown in the foreground) to allow the resistor leads to enter the centre pin with short leads. A rectangle of circuit board may be soldered to the remaining part of the connector's wall as shown. Using an appropriate length of 50 Ω coax, connect your transmitter output to the meter's Tx connector, and the 50 Ω termination to the Ant connector.

Set S1 to 'SWR' and the sensitivity pot near zero. The termination can dissipate 10 W for the short time needed to adjust the trimpot, so apply a CW or 'tune' signal at (say) 14 MHz. Adjust the sens pot so that one meter (it should be 'Fwd') reads full-scale, and the other reads some low value. Carefully adjust the trimpot so that the 'Rev' meter nulls to zero.

You can check for SWR 2.0 by connecting two 50 Ω terminations in parallel, whereupon the 'Rev' meter should indicate about 15 µA.

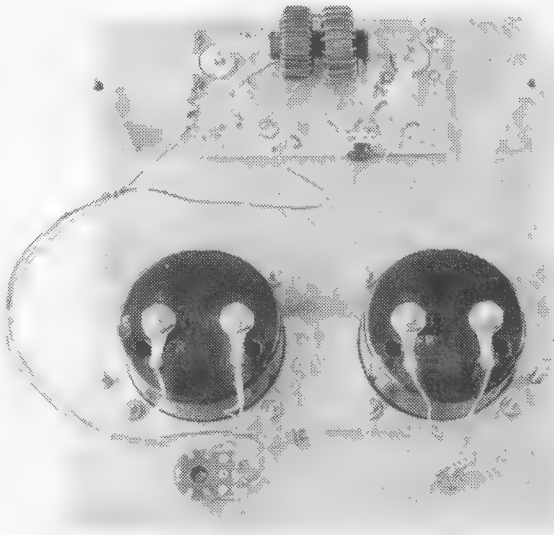


Photo 2: A suggested layout for the SWR meter and RF ammeter.

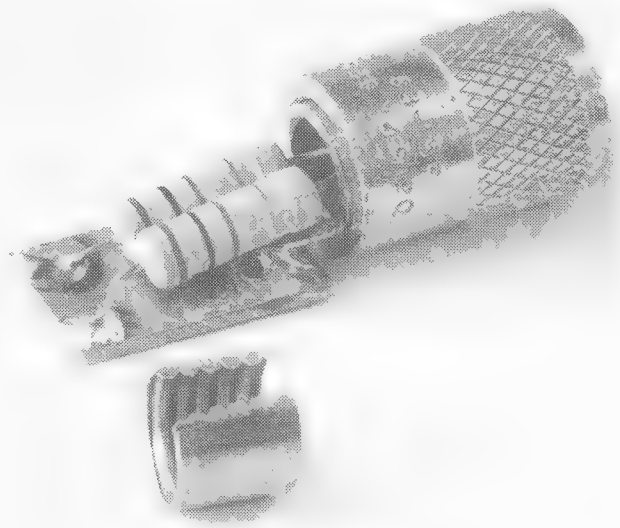


Photo 3: 50 Ω, 4 W termination load.

To measure power flow with S1 in the 'Amps' position (power calculations are accurate only when the SWR is a low value), simply square the reading and multiply that by 50. For example, as a 14 µA deflection = 1.4 A; from the formula:

$$P = I^2R$$

so $P = 1.4^2 \times 50$ (98W)

In SSB mode, the meter will 'integrate up' on voice peaks to very close to the RMS value of the current, so it will be found in practice that PEP may be estimated by applying the same formula and terminating impedance:

$$P = I^2 \times 50$$

For example, 2.8 x 2.8 x 50 = 392 W.

Parts

The ordinary electronic parts are available from the usual suppliers, including Altronics, DSE, Electronic World, Jaycar, Rockby and Semtronics. Metal-film 2 and/or 3 W resistors may be ordered from Electronic World (also usually available from suppliers to the TV service trade, example Wagner Electronic Services at www.wagner.net.au/).

BAT-46 diodes (P/N ZR-1141) and ferrite cores (LO-1234 - packet of four) are obtainable from Jaycar.

continued next page

Ballot for Two Letter Callsigns

continued from page 5

prior to the commencement of the Ballot. Under this process, ACMA will consider allocating to some applicants the two letter callsign that was "lost" as a result of exceptional circumstances. Any two letter callsign re-allocated as a result of this process will be not be included in the Ballot.

The *Radiocommunications Act 1992* (the Act) imposes the obligation to renew a licence on the licensee. Section 129 of the Act allows licensees to renew their licences during the period six months before the licence is due to expire and 60 days after it expires. Accordingly, ACMA will **only** consider applications for review that demonstrate **exceptional circumstances** as the reason for failure to renew.

For the purposes of the pre-Ballot review, exceptional circumstances are considered to be circumstance(s) that significantly affected the ability of the individual to apply for renewal of their licence. For example, serious illness or bereavement, overseas travel or other significant incidence that occurred at the time the licence was due to be renewed. It is recommended that applications for preliminary review contain documentary evidence of the exceptional circumstances involved, where appropriate. Please note that applicants who apply for preliminary review without demonstrating **exceptional** circumstances will **not** be successful.

Applications for review must be received by ACMA on or before **4 pm AEST Wednesday 30 April 2008**. Applications should be sent to the following address:

Two Letter Review
Australian Communications & Media Authority
PO Box 13112
Law Courts
Melbourne VIC 8010

Please note that amateurs who have previously applied for "lost" callsigns will need to apply again as part of this process.

ACMA will advise every applicant of the result of their application. This advice will contain a date by which successful applicants must apply to renew or vary their licence. Failure to do so by that date will result in the callsign being included in the Ballot.

Callsigns of deceased amateurs

When ACMA is advised of the death of an amateur, that amateur's callsign is not re-allocated for at least 2 years after the date of death. During this 2 year period ACMA may allocate that callsign to a particular qualified person at the request of the personal representative or the next of kin of the deceased amateur. Unfortunately, it often happens that neither ACMA nor the WIA is advised of the death of an amateur and so the licence is simply allowed to lapse.

Friends, the personal representative or next of kin of any amateur who died on or after 1 March 2006 are urged to ensure that either the WIA or ACMA is aware of the death of that person. This may be done by mail, facsimile, email, or telephone to the WIA office. Appropriate evidence may be requested, such as a copy of a published death notice.

Any two letter callsign belonging to an amateur whose death occurred on or after 1 March 2006, where ACMA or the WIA is aware of the death, will be excluded from the Ballot. Any callsign belonging to an amateur whose death occurred on or after 1 March 2006, where ACMA or the WIA are advised of the death before **4 pm AEST Wednesday 30 April 2008,** will also be excluded from the Ballot.

These arrangements will not restrict the right of the personal representative or next of kin of a deceased amateur requesting the allocation of the deceased amateur's callsign to a particular person who is qualified to hold the callsign.

Any two letter callsigns not allocated at the request of the personal representative or next of kin of a deceased amateur will become available in due course for re-allocation outside the Ballot process.

Persons eligible to apply

Any person who:

1 holds, or who is qualified to hold, an amateur licence (amateur advanced station); and
2 resides permanently in Australia; and
3 does not already hold a two letter callsign in any state or territory in Australia; and
4 is not a person who is, or in the past two years has been, or is currently elected to be or is appointed to be a director, officer or employee of the WIA or the spouse or partner of any such a person

is eligible to participate in the Ballot for the state or territory in which the person resides.

List of available callsigns

ACMA will provide the WIA with a list of available two letter callsigns by state and territory. At this stage, it is expected that the WIA will publish that list on its website on or after 10 June 2008.

A combined MF-HF SWR meter and RF ammeter

continued from previous page

References and Further Reading

1. *HF Antenna Collection*; E David, G4LQI (ed), RSGB, pp 211 - 213.
2. "A Twin-meter SWR Bridge"; *Amateur Radio,* May 1999.
3. *Electrical Technology*; Edward Hughes, 4th edition pp 419, 420, Published by Longman Group.
4. "Current Transformers and RF Measurement"; Dennis Walker G3OLM, *Rad Com*, Nov 1995, p 70.
5. "RF ammeters for high-frequency measurements"; *Amateur Radio*, Nov 2004.
6. "'Paddyboard' circuit construction - revised"; *Amateur Radio*, May 2005.

Photos: Karlen Dockrey

ar

Ballot invitation

At this stage, it is expected that the WIA will prepare a general notice calling for applications from amateurs wishing to participate in the Ballot in the June 2008 issue of the WIA's magazine *Amateur Radio*. The Notice will invite applications from eligible amateurs wishing to participate in the Ballot in the state or territory of their residence. The notice will also be placed on the WIA website and will also be publicised on at least 3 occasions during WIA broadcasts.

This notice will include an application form. The application form will require the applicant to:

- provide their first and second preference from the list of available callsigns in their state or territory of residence;
- state that no other 2 letter callsign is held; and
- state that the applicant agrees to be bound by the rules of the Ballot.

All applications will require payment of a fee (to be determined). In accordance with the Principles specified by ACMA, this fee will be reasonably related to the cost of holding the Ballot.

Applications for the Ballot

At this stage, the expected closing date for receipt of applications for the Ballot will be **4 pm AEST Monday 30 June 2008.** Applications should be sent to the WIA.

An application for participation in the Ballot delivered by hand to the WIA office must be delivered by no later than 4 pm EST on the closing date. The WIA will treat mail received by postal delivery or by clearance from the Post Office box on the following day as being received in time. The WIA is not obliged to clear the box more than once on that day.

All applications for the Ballot must be accompanied by a cheque or money order for the Fee or a credit card authority in respect of the Fee.

Any application for participation that is not delivered by the time specified or is incomplete or is not accompanied by a cheque or credit card authority for the Fee will be disregarded.

Processing of applications

All complete and eligible applications will be recorded on a secure electronic database after the closing date. A ballot number will be assigned to each application in the order in which they are received on a state or territory-by-state or territory basis. For example, the first application received from New South Wales will be attributed the Ballot number 2001. Similarly, the second application received from Victoria will be attributed the Ballot number 3002.

Under this process, the identity of the applicant will not be known before the Ballot. The Ballot number will be used to link the details recorded on the database for identifying callsign preferences.

Ballot methodology

The Ballot will be conducted on a day and at a place to be announced. At this stage, it is expected that the Ballot will be conducted no later than Friday 11 July 2008.

An application number will be drawn out of a barrel in sequence until all available callsigns have been allocated or no further applications remain. The Ballot for all states and territories involved in the process will be conducted on the same day.

The WIA will ensure the presence of at least two independent witnesses at the Ballot. An ACMA representative may also be present on the day.

As each successful applicant is identified, the eligibility of the applicant will be verified against the ACMA database. If the callsign is available, the first preference of that applicant will be allocated to that applicant. If the first preference of that applicant is not available, the second preference of that applicant will be allocated to that applicant. If the second preference of that applicant is not available, the application will be held until all other applicant preferences have been exhausted, at which point the remaining callsigns, in alphabetical order, will be allocated to the applicants whose preferences could not be met in the order in which they were originally drawn.

ACMA will be provided with a list of all successful applicants and the callsign recommended to be allocated to each applicant.

ACMA licence variation process

The WIA will advise all eligible applicants of the Ballot outcome within three working days after the Ballot day. Applicants will be advised of the Ballot outcome whether or not they are successful.

Successful applicants will be provided with an application for variation of an apparatus licence and will be advised to complete the form and return it to the WIA or ACMA within 14 days, accompanied by a cheque for $41 made payable to "ACMA" or a credit card authority for $41 in favour of the WIA or ACMA.

The WIA will forward all applications for variation of an apparatus licence received by the WIA to ACMA.

At this stage, it is expected that the Ballot process will be complete by **Wednesday 20 August 2008.** Any two letter callsigns not the subject of an application for the variation of an apparatus licence received by ACMA by this date will be returned to the list of available callsigns and thereafter will be allocated to applicants for licences or applicants for variations of licences on a basis to be determined, having regard to the number of callsigns involved and the number of people seeking the allocation of such callsigns.

Summary of proposed milestones and timeframes

Step	Date
Comment closes on Ballot process	30 April 2008
Applications close for pre-Ballot review	30 April 2008
Last date for advice of exclusion of callsign due to death	30 April 2008
WIA publish process for allocating callsigns including final dates	early May 2008
ACMA advises applicants result of pre-Ballot review	end May 2008
List of available callsigns released	mid June 2008
Ballot closes	end June 2008
Ballot conducted	mid July 2008
Applicants advised of ballot outcome	mid July 2008
Ballot process completed	end of August 2008

A novel antenna direction indicator

Lou De Stefano VK3AQZ

I recently constructed a home-made antenna rotator using the now commonly available scooter motor. Having completed the mechanical design, I proceeded to plan the usual antenna position electronics. The standard approach is to use a ten-turn pot or similar, driven via a pulley, gear, or belt from the tubular mast, or maybe some convenient gear inside the rotator. Other approaches include optical disks, reed relays and magnets, or good old- fashioned oak switches with the end stops removed.

My first attempt was the most complex method I could devise. My design used several embedded Pentium processors, multi-binary triple-stacked Gray code optical discs, and a small broadband wireless network to send the encoded position data back to the radio shack for display. A GPRS was also incorporated in case I needed to use it from the car. A small diesel generator was added at the base of the tower to power all these electronics.

So there it was – all ready to build. It looked good on paper and was so complex that it could also, if one desired, be used as the guidance system in a nuclear missile, or on the Mars rover. I was describing this marvellous piece of electronics to my son one day, explaining what it was for, and he replied – why not just use a webcam looking along the antenna mast? No – too easy! But, after mulling this idea over for a few days, the whole thing actually looked like it was worth a closer look. Besides, I had a suitable camera and it did not sound too hard to throw together.

The idea is simple enough. You obtain a low-cost colour or monochrome TV camera and point it at some compass-like scale fixed around the mast tube, or mount it on the end of your beam and use the surrounding landmarks to indicate which way the beam is pointing. There are other possibilities but I chose to mount the camera at the base of the tower looking at a section of mast. In my setup,

3 year Warranty on Australian Icom Amateur

Visit us at www.gccomm.com.au for new product updates

G&C COMMUNICATIONS

See us for CAR Stereo too! ~ 'Cranbourne Car Sound'

All the Best Products available with full Australian Warranty

Vertex Standard Yaesu Icom Kenwood GME Garmin RFI

ZCG Uniden Diamond Barrett Pioneer Earthquake

TET-emtron Comet MFJ Clarion Blaupunkt Mongoose

Commercial & Amateur Radios

27MHz & UHF CB's

Marine & Airband

GPS Navigation

Receivers & Scanners

Car Audio & Alarms

Mobile Phone Kits

Reversing Cameras

Shop 2 9-11 Cameron St Cranbourne VIC 3977
Ph 03 5996 3298 Fax 03 5995 0184

Email: gccomm@bigpond.net.au
www.gccomm.com.au

the rotator is installed near the base of a small lattice tower and drives a vertical length of tubing which has the beam mounted at the top. All the mechanics are at ground level and so easy to service. Placing the camera adjacent to the rotator makes it easy to mount, reduces the cable runs, and avoids exposure to high weather conditions.

The camera that I happened to have available can be remotely controlled by either a serial data cable or infra-red controller. It has remote zoom, auto focus, and pan/tilt facilities, and is enclosed in a plastic weatherproof casing. The camera is mounted about level with the rotator, using a suitable bracket attached to the tower frame (see Photo 1). The infra-red remote control is provided using an extender kit. The camera operates from a 12 volt DC supply and is fed by a light-duty figure-8 cable. The compass scale is painted on a small, white, powder-coated pipe clamp, which is attached to the mast tube in front of the camera. The video from the camera is fed back to the shack via a length of 75 ohm coax and is displayed on a colour TV monitor (see Photo 2).

There are a number of alternatives available. You could use a low-cost security camera and monitor. Alternatively, you may have an old camcorder lying around. These tend to have reasonably good lenses with zoom and auto-focus. You do not really need the zoom, auto-focus, or pan/tilt. However you could amuse yourself by panning onto a tower bolt, a piece of grass, or just simply zooming around! Instead of using video cable to send the image back to the shack, an 'A/V sender' could be used. Some models can also send infra red commands back to the camera.

At computer swap meets I have seen small battery-operated wireless cameras which would probably also work. One of these could be powered by a small rechargeable battery which is topped up by a solar panel during daylight. LEDs, or a small lamp, could be used to illuminate the scale at night.

One thing you may need to consider is RF interference into the camera from your transmitters. I do not have any problems with VHF transmissions, but the HF linear does produce some visible bars on the display although the compass points are still legible.

Photo 1: Camera aimed at compass scale on mast.

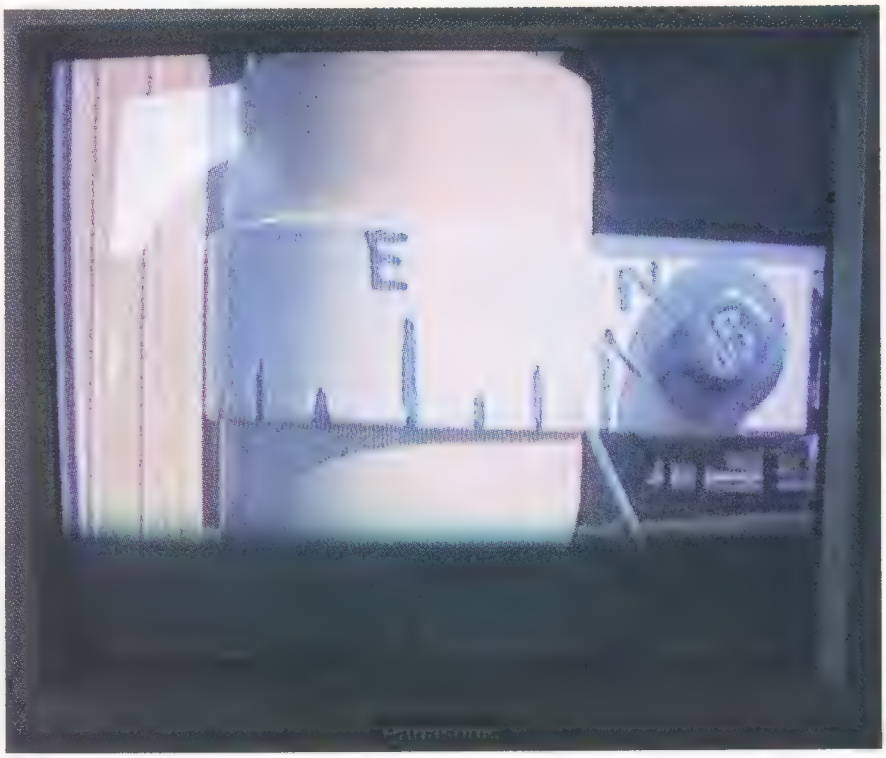


Photo 2: Beam direction display in shack.

Generally however, the antenna is not turning during your own transmissions, so this is not a real problem. Another consideration is condensation on the camera lens. A small fan and heater can be installed in the weatherproof container to prevent this. I use a small PC fan blowing over a 10 watt resistor.

Although I have not tried it, mounting the camera on the boom and looking down its length would give an interesting view of the surroundings as the beam rotates. You could also get a fair idea of how your beam elements are standing up to the wind – something worth considering!

In conclusion, the idea of using a video camera as a position indicator has turned out to be easy to implement and works very well – thanks to my son Vincent for the suggestion!

ar

Equipment review

The Yaesu VX-3R

Ron Fisher VK3OM

A midget marvel with amazing facilities

The VX-3R follows on from the earlier VX-1 and VX-2. I have had a VX-1 in my collection for some years, so it was interesting to compare the two. I have never used a VX-2 so I cannot comment on the performance of this compared to the other two. I have always considered the VX-1 to be something of a toy with its very low power output. However it is handy to slip into a pocket and use as a receiver and even get into a repeater from a good location when out and about. The VX-3R output, 1.5 watts on two metres and one watt on 70cm, is three times that of the VX-1. This means putting a reasonable signal into a repeater that is just not accessible with the lower power from the old model.

One of the excellent features of both of these transceivers is the much better than average antenna. Perhaps these short whips all look the same, but in operation there are big differences. I have a couple of Chinese hand-helds where the whip antennas are down at least 10 dB compared to the VX transceivers, even though they are about the same size and even look similar. Audio quality on both transmit and receive is excellent. Reports on transmit indicated the response to be well balanced, with no audible distortion and no background noise. Receive audio, considering the size of the speaker, was also very well balanced and intelligible but audio power output as expected was fairly low with only 50 mW available.

In many ways theVX-3R is similar to the VX-6 reviewed in the December 2006 issue of AR. However the overall size is about 2/3rds of its earlier brother. The overall size is just 47 x 81 x 23 mm and it weighs in at 130 g, barely a hand full. Lets look at the amazing receive facilities of this midget marvel. Starting at the low frequency end, AM broadcast band reception has been 'improved' with the inclusion of a ferrite bar antenna. Unfortunately it does not seem to work very well. Even on the stronger local stations there is quite a bit of background hiss. It is certainly inferior to the old VX-1 and that is not all that good. Going higher, and taking a jump to the FM broadcast band, it is a different story. The sensitivity is good and using a pair of high quality headphones the stereo audio quality is very good and I was able to pick many low power stations with very good, listenable signals.

Short wave coverage is from 1.8 to 30 MHz. and this is for AM reception only. First thing, you will need a longer antenna than the small supplied whip. I tried a quarter wave two metre whip and the difference was quite startling. I was even able to hear a few of the stronger 160 metre AM net stations. Listening around the preset shortwave broadcast frequencies in the early evening, dozens of stations were heard at good listening levels. Of course you might hear much with a longer antenna but there is a trade off with the increased possibility of front end overload.

On the aircraft band, sensitivity with the supplied antenna was about equal to a small air-band scanner that I have; again a longer antenna would be helpful. However I am sure you will be very happy with results if you are not too far from your local airport.

The six metre band is included but again there is only AM or FM available so it might be difficult to check for DX openings on SSB, but I guess better than nothing.

There is full coverage of both the VHF

The Yaesu VX-3R

The Yaesu VX-3R is a micro size dual band VHF/UHF transceiver with a wide band receiver which covers from 500 kHz through to 999 MHz.

The transmit side covers both the two metre and seventy centimetre amateur bands with a power output of 1.5 watts on two and one watt on seventy.

Power is supplied from a Lithium-ion battery which is rated at 3.7 volts with a capacity of 1000 mAh.

Transmit is narrow FM (+/- 5 kHz) but receive modes can be selected from AM, narrow FM or wide FM with stereo reception on the FM broadcast band through optional headphones.

Robin Harwood VK7RH

Web beats SWL

A quarter of the year has already flown by and conditions do not seem to be improving as quickly as we might have expected.

The propagation experts predict that it will be a long haul before conditions will pick up. However it is apparent that HF is certainly different from 12 months ago. International broadcasters are pruning shortwave from their output and opting to place their offering on the web as either podcasts or streaming audio. Both of these options only permit less than a hundred to simultaneously listen in compared to the tens of thousands who can readily access radio.

In mid February, the BBC World Service decided to bring forward its decision to close all remaining European service shortwave outlets. Naturally BBC external service programming is available either via the web or on AM/FM domestic outlets across Europe. This means that long-established channels such as 9410 and 12095 kHz were cut back. I believe that the latter channel is still employed to target North Africa and the Middle East.

Although BBC programming has been reduced over shortwave, other broadcasters and program makers have seized the opportunity to utilise the spare capacity of the senders in Britain. Deutsche Welle from Bonn makes extensive use of these senders. This is a reversal of roles from when the BBC broadcast to occupied Europe, gaining an enviable reputation during the Second World War, for the Germans now to broadcast back to Europe from Britain, after ditching their own senders.

Kol Israel also decided to terminate shortwave programming as from April 1st and stream programming on the web. It is unclear at present if this is only confined to external service programming. Hebrew programs from the domestic services have been relayed for some time. As I have previously stated, we have heard these announcements before, only to see them resume at the last minute.

Finland has reappeared on shortwave from the Pori site with relays of the Overcomer Ministry with Brother Stair. I believe they have been using the very crowded 49 metre band allocation. Incidentally, several European administrations have been moving broadcasting stations from transmitting above 6200 kHz because it is causing severe interference to the maritime allocations. Israel, North Korea, Moldova and so-called hobby pirates are the only remaining senders encroaching into the exclusive marine allocations. If Israel indeed does cease shortwave broadcasting, it means that there will be one less. The North Koreans have been engaged in a cat and mouse game with the South Koreans and have been logged within other exclusive allocations. They may be harder to shift.

Well that is all for this month until next time.

de VK7RH

ar

The Yaesu VX-3R

continued from previous page

and UHF TV channels. No, you cannot watch the vision on the screen but the sound comes in loud and clear so at least you can keep up with what is happening to your favourite soapy.

Of course you can put all your favourite frequencies into memory, and there are plenty of them. Would 1286 be enough? These come in 24 banks so it's possible to have a bank for every segment of the very wide frequency coverage.

Some of these memories are taken up with pre programmed frequencies for VHF marine and short wave broadcast stations, but I am sure you will find plenty left over. However, the main reason for buying a VX-3R is to use it as a dual band transceiver. Compared with my old VX-1, it is no longer a 'toy. It has become a very usable piece of equipment.

The VX-3R retails for around $330. There is a full range of options available, some of which look very interesting. One of these is known as 'WIRES'. This appears to be a system similar to IRLP or EchoLink. I hope to have more information on this for you in the near future.

I would like to thank the gang at Vertex Standard for the loan of the VX-3R. If you are in the market for a miniature dual band hand held, I can recommend the VX-3R. It certainly continues the high reputation that Yaesu has with this type of equipment.

ar

WIA News

continued from page 4

This second edition has been intentionally delayed, waiting regulatory changes to the Amateur Radio Licence Conditions Determination, (the LCD), so that the regulations and assessment syllabus included in the Manual will be up-to-date.

The Manual also now contains; a description of single sideband by introducing the concepts of time domain and frequency domain; a guide to which frequency bands to use at different times of the day and in different seasons; an explanation of antenna radiation patterns and which type of antenna is best for local or DX contacts; how to wind balun transformers; emergency communications and how to prepare for the unexpected; and several more antennas to build.

The WIA will notify members and trainers as soon as it is available.

ar

Fuses

or how to get a smaller bang for your buck!

Clive Wallis VK6CSW

A device used to detonate an explosive charge is called a fuse. In our hobby its namesake is a device used to protect electrical circuits. The wrong choice of electrical fuse may lead to the "detonation" of the device it is supposed to protect! Electrical fuse technology is complex; fuse manufacturers' manuals are substantial documents. This article sets out a few thoughts on fuses and why the odd bit of wire will not do.

The electrical fuse is an expendable item that eliminates overload of a circuit. Use one with the wrong characteristics and you could find that the circuit is eliminated to save the fuse! I make no claim to be an authority on the subject but what follows has been gleaned from several reliable sources including the Standard Handbook for Electrical Engineers, 1987.

The role of the fuse is two-fold: it should protect both the device being powered and the source of that power. The major electrical considerations in the choice of a fuse are source voltage and impedance, current required by the load, maximum current to be interrupted, and time needed to interrupt and clear the fault without equipment damage.

Use a fuse with the wrong characteristics and you could find that the circuit is eliminated to save the fuse!

Fuses come in many shapes and sizes such as re-wireable, bolt-in, cartridge, glass or ceramic tube, for example.

The re-wireable type is found in older household AC mains fuse-boxes; here the likely option is to replace a blown fuse with the correct wire element, (although you can now obtain a re-settable plug-in circuit breaker).

Bolt-in, large cartridge and tube types are generally confined to industrial applications and may be filled with air, sand, or a special filler such as boric acid or bone-fibre, etc. Such a sealed "company-fuse" (probably rated at 60 to 80 amps on a single phase inlet) can be found lurking near your electricity meter, but you interfere with it at your peril! Here we will concentrate mainly on the small glass or ceramic clip-in types found in amateur and domestic appliances, e.g., the 3AG (6.3 x 32mm), M205 (5 x 20mm), and similar.

What causes a fuse to blow? Over-voltage, over-current, or overheating? Since the fuse melts, the last choice is clearly the correct one and occurs because the fuse element has a small but finite resistance. When too large a current flows, this resistance multiplied by the square of the current creates sufficient local heat to melt the fuse and interrupt the power. The essential requirement is that the fuse melts before the circuit elements do! The manner in which the melting occurs is important.

Except for re-wireable fuses which use tinned copper wire, fuse elements are generally silver strip or wire shaped to give the desired fusing characteristics. As the element melts an electric arc is formed and current continues to flow until this arc is extinguished, hence the "interruption time" is the sum of the melting and arcing times and is inversely proportional to the current.

Where sand or another filler is used its purpose is to absorb the heat of the post-fusing arc thereby speedily extinguishing this arc in a controlled fashion.

A blackened glass fuse cartridge indicates that ionisation of the air within the cartridge has occurred as a result of a prolonged and very hot arc. During the period of arcing and ionisation, current continues to flow and the fuse fails to interrupt the fault current. Such blackening should not occur if the fuse is of the correct type.

Fuses can carry their rated current continuously; fusing or melting starts at around twice the rated current. Current carrying capacity is generally specified at 25 deg C; if the ambient temperature is higher then the fuse should be derated. To prevent nuisance blowing yet still have adequate protection, a fuse rated at 125% of the normal current is often specified.

Fuses are rated by current, voltage, and operating time or "delay". Current ratings range from a few milliamps to many thousands of amps, while voltage ratings go from 32 to 600 for the common 3AG and similar types - and hundreds of thousands for special industrial types.

Voltage classification depends upon the voltage present across the fuse after interruption. Always ensure that a mains fuse is replaced by a correctly rated one, not a 32 volt type. Most high-grade manufacturers stamp the voltage, current, and delay ratings on one metal end-cap though others use a code.

To further confuse the issue there are three main standards used for small cartridge fuses, the American UL (Underwriters' Laboratory) plus the IEC and CEE standards found mainly in Europe and Asia. Because the standards vary, it is wise to always use a fuse identical to the original if at all possible.

Fuses must be able to safely interrupt the highest fault current that could be present at the rated voltage. The impedance of a standard 240 volt AC outlet may be as low as 0.1 ohm, in which case a dead short across it could result in an instantaneous fault current flow of 3400 amps - which can cause a very expensive bang. (Nominal mains voltage is 240 AC, hence peak voltage is 240 x 1.414 = 340; 340 V across 0.1 ohm = 3400 amps).

Fuses come in two basic formats, the HRC (high rupture capacity) and LBC (low breaking capacity), and the 3AG type is no exception. Some HRC versions can clear a fault current of up to 10,000 amps whereas the LBC is rated at 10 times the nominal fusing current (exact specifications vary with the manufacturing standard). That is, a 2 amp LBC type will safely interrupt no more than 20 amps. Superficially, the 3AG HRC and LBC fuses look much

the same, but clearly the HRC type MUST be used where mains inputs are concerned.

Fusing speed is important and depends upon the nature of the required protection. Transistors and thyristors (three legged fuses!!) blow very quickly and require that the protective fuse blow even faster. Quick-blow types can act within half a cycle at mains frequency.

On the other hand, motors, transformers, and capacitor input circuits pass heavy initial (inrush) currents and require slow-blow fuse protection. The starting current of an induction motor may be three to eight times the rated running current. Repeated starts should not melt the fuse but the same fuse must give protection against internal shorts or over-current due to seizure or stalling.

Placing a blob of solder in the centre of the silver fuse element increases the thermal capacity of the element sufficiently to withstand brief starting overloads, but a sustained overload melts the solder and dissolves the silver.

One type of quick-blow fuse uses a specially shaped element designed to speed fusing by concentrating the heat in a small area. Some fuse elements have a coil-spring winding around part of the element; these are slow-blow types.

Different applications require different fuse characteristics. A perusal of manufacturers' charts reveals a surprising variety of fuses available, many of which look outwardly similar.

a fracto-buck spent on the right fuse could save mega-bucks

In general terms, the fastest acting fuse is type FF (super quick) suited to thyristor circuits, while the standard quick acting fuse is rated F (normal blow). Type M has a medium fusing time and can handle small current surges, while type T is the standard slow-blow fuse. Type TT is a very slow acting fuse.

Where no letter prefix is shown, such as 2A/250V the fuse may be assumed to be a normal quick-acting type. Where no voltage rating is shown, a fuse purchased locally may be assumed to have a 250V rating. As mentioned above, some fuses without a marked speed rating have a small spring or a solder blob on the wire; these are slow-blow types.

Fuse-holders should also be rated according to their design purpose, and always make sure that the contacts hold the fuse tightly. A little unwanted resistance here plus a high current flow can lead to high temperatures and ultimate mechanical failure of the clip.

As a fuse has some resistance, a current flow generates heat. The fuse element used in glass fuses usually has a positive temperature coefficient which may make de-rating necessary to allow for the temperature rise. It also means that a fuse can suffer from thermal fatigue and may simply die of old age even though no equipment fault exists.

Similarly, fuses have an "amps-squared-seconds" rating which is a measure of how much energy the fuse can pass and thus how much stress may be placed on the protected circuit before the fuse ruptures.

As well as fuses designed to protect against excessive current, there is also the thermal fuse to protect against excessive heat.

These fuses are found in fan-heaters, hair-dryers, toasters, and so on, and are designed to fail at a pre-set temperature. Replacement must always be by one of identical rating and it must also be positioned correctly to sense the heat. Just like glass fuses, they all look very much alike but have widely different characteristics. An improperly rated thermal fuse may cause a serious fire.

Larger mains transformers often have a thermal fuse incorporated within the primary winding to protect against excessive temperature rise due to prolonged overload. Usually there is no economic way to replace this fusible link.

Quality fuses manufactured to UL, IEC, or CEE standards are required to show rated voltage, rated current, time delay characteristic, and the manufacturer's name or trade-mark. That being so, one can only wonder at the quality of many fuses sold at local outlets.

As mentioned at the beginning, this article is not intended to be a comprehensive treatise on fuses. If it makes you think twice about what sort of fuse you should use next time the need arises, then it has achieved its aim. Where possible, be guided by the equipment manufacturer's advice - he probably had good reason for choosing a particular type of fuse, and a fracto-buck spent on the right fuse could save mega-bucks on repair bills!

ar

Didn't make it to Parkes?

Don't miss Broken Hill!

WIA AGM

23 to 25 May 2008

The weekend offers a wide range of family activities for all interests:

Friday 23rd

6:30 pm - Evening meal at the Southern Cross Hotel,

8:00 pm - The History of Broken Hill -A Presentation by Peter Black at the Southern Cross Hotel

Saturday 24th

8:00 am - Informal Breakfast at the Southern Cross Hotel

9:00 - 12:00 School of The Air - A special opening and tour for WIA weekend participants.

9:00 - 12:00 Radio station 2BH - A special presentation for WIA weekend participants.

9.00 - 12:00 Visit the many local art galleries, museums and other tourist attractions.

12:30 pm - BBQ lunch at the Lions Rotary park.

2:00 pm - WIA AGM and Open Forum at the Broken Hill Entertainment Centre.

6:30 pm - WIA Annual Dinner at the Broken Hill Entertainment Centre

8:30 pm - Guest speaker.

Sunday 25th

8:00 am - Informal Breakfast at the Southern Cross Hotel

9:00 - 12:00 Guided technical tours of the RFDS base including a presentation on RFDS radio by Gary Oldman RFDS Telecommunications & IT manager.

9:00 - 12:00 Visit the many local art galleries, museums and other tourist attractions.

12:30 Lunch and weekend wrap up at the RFDS base, Broken Hill Airport.

Broken Hill is...

- **a mining town with some of the richest deposits of silver lead and zinc the world has ever seen.**
- **a working town with mining being its major economic driver in conjunction with agriculture, art and tourism.**
- **a popular tourist destination and home to many art galleries and famous artists.**
- **has a history in radio, not only as a major base for the Royal Flying Doctor Service, which initially used Alf Trager's famous pedal powered outback radios.**
- **home of the School of The Air which also used the network of Trager's radios to provide education to students in remote outback locations.**

AGM Registration:

WIA National Office 03 9528 5962

Attractions and accommodation:

www.visitbrokenhill.com.au

Silent key

Ken Matchett, VK3TL (SK): Marathon Man

12 December 1921 - 10 March 2008

Ken was well known in the Amateur Radio community as the Curator of the WIA QSL Card Collection.

The collection under Ken's care has become one of the largest in the world containing hundreds of thousands of cards. International contacts established by Ken enabled duplicate cards in the various overseas collections to be exchanged between Ken and the other curators to enhance each of the individual collections. Ken gave many, many hours of his time in collecting, sorting, cataloguing and filing the WIA QSL card collection of which he was justifiably proud.

During World War II, Ken was in the Signals Corp and this initiated his life long love affair with communications. He was a member of the WIA, the Old Timers Radio Club and the EMDRC, and was a willing guest speaker at many Clubs when asked to give an insight into his beloved QSL collection.

Ken's other main interest in later life was track and field, and in particular, Ultra Marathon Running. The retired school teacher and university lecturer became interested in marathon running at age 57. Subsequently, his achievements are quite daunting and during his career he held many World and Australian Records. He ran in over 112 marathons qualifying as a member of the exclusive 100 Marathons Club, otherwise known as the One in a Million Club as only 24 Australians have run more than 100 marathons. Ken's marathon running took him all over the globe to compete in such diverse localities as London, Vienna, Copenhagen, Antwerp, Rome, New York, Boston, Honolulu, Suva and Tahiti. At one point he held six world records in the 70 -74 age group for distance running.

In April 2007 Ken was still ranked second in the World for M 85-89 10-kilometre run after posting 1:00:52 in Hobart – less than 3 minutes outside the world record.

During the Easter weekend of 2004, 82 year old Ken took part in eight athletic events over four days, including a 10 kilometre run, an eight kilometre cross-country walk and a two kilometre steeple chase. He also won five gold, two silver and one bronze medals in various distance events at the Australian Masters Athletics Championships, and broke the Victorian record in the 10 kilometre run for his age group. Until ill health intervened, Ken ran into the city almost every day if the weather permitted from Croydon Station to Flinders Street Station where he hopped on the train for the trip back to Croydon. The Australian Ultra Runners Association Log of Australian Records reads in part as follows:

Men's Track - 6th September 2006

12 hours M80 Ken Matchett VIC 76.622 km Coburg VIC 22/04/2006

50 miles M80 Ken Matchett 12:39:05 Coburg VIC 22/04/2006

Men's Track - 17th April 2006

100 miles M80 Ken Matchett VIC 47:26:48 Colac VIC 22/11/2005

48 hours M80 Ken Matchett VIC 165.115 km Colac VIC 22/11/2005

24 hours M80 Ken Matchett VIC 130.517 km Coburg VIC 18/04/2004

100 km M80 Ken Matchett VIC 17:09:07 Coburg VIC 18/04/2004

Age certainly did not weary this Veteran.

Carl Schlink VK3EMF and Peter McDonald VK3DI

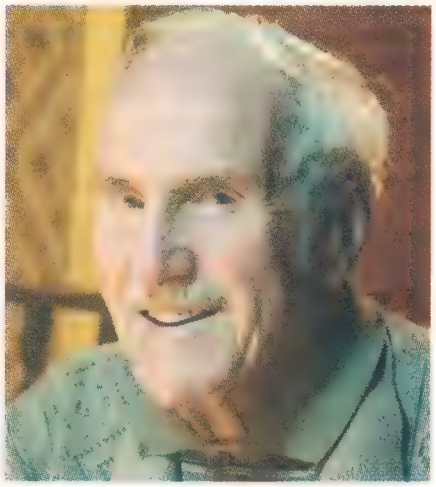
The passing of Ken Matchett VK3TL on 10 March is a sad loss.

Ken will be equally known for his excellence in preserving radio history through QSL cards and achievements as a track and field athlete.

He was the honorary curator of the now WIA National QSL Card Collection whose dedication over many decades built it up to many hundreds of thousands of cards.

The collection is a repository of much of the history of amateur radio not only in Australia but worldwide and through the internet is increasingly gaining global recognition and appreciation.

A sample of his work can be seen on the internet video facility YouTube



with a four-part series researched by Ken and narrated by his partner Dr Jean Dawson.

Nowhere else will you find such an insight into the pre-WWII history of amateur radio through QSL cards which trace the evolutionary changes in radio technology, callsigns, regulations and the influence of political change.

Over the past 30 years, Ken, a retired education administrator, had run more than 100 marathons including the big races in Boston, New York, Honolulu, London, Rotterdam, Vienna and Rome.

He often trained on the streets of Montrose in Melbourne's Dandenong Ranges. In preparation for the Australian Masters Championships last Easter he ran up to 60 km a week. At the age of 85, he broke seven world records, one Australia record and bagged 10 gold medals.

Then six days later was again breaking records in the Victorian 24 hour championships and then the Canberra Marathon, resulting in one scribe dubbing the octogenarian as unstoppable.

Unsure of exactly why he took up running, it began as a bit of challenge to run regularly with his younger workmates when at Melbourne's LaTrobe University.

In recent months Ken was diagnosed with a brain tumour but remained in relatively high spirits.

His memory will hopefully live on through the legacy of the world's best catalogued QSL card collection.

Amateur Radio Victoria
www.amateurradio.com.au

Palstar TTS is the local home of Palstar Superbly engineered and robustly built in the USA

BT1500A 1500 Watt Double L Balanced Antenna Tuner

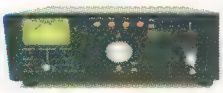
The BT1500A is the only 1500 Watt, Double-L Network antenna tuner on the market today.
- two tandem mounted, precision ceramic roller inductors for a truly balanced tuner.
- dual section capacitor gives correct capacitance for both low band and high band
- relay-switchable between input/output side for maximum range of impedance matching. So why buy a balanced tuner? A September 2004 QST article stated "unfortunately, the typical random sized center-fed antenna with random length ladder line feed has an impedance at the feed point that varies dramatically with frequency. The result can be heating and loss (and occasional damage) at the balun...the classic solution has been the use of an inherently balanced tuner." In the QST article Joel Hallas reviewed the Palstar AT1500BAL as a high-power solution . The engineers at Palstar took the AT1500BAL and reengineered the entire tuner inside and out, reintroducing it as the BT1500A .

Having TVI problems? Check us out for Palstar high and low pass filters

ZM30 Antenna Analyzer

An automated micro-controlled SWR antenna analyzer with a 8 bit micro-controller with a precision low power DDS signal generator. Self-calibrating reflectometer, SWR at selectable frequencies from 1 Mhz to 30 Mhz. It measures: SWR, impedance, reactance, inductors and capacitors, transmission lines, stubs, Q, and resonant frequency. There is a serial port for field upgradable software. Battery operated.

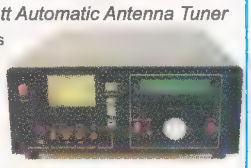
AT1KP Tuner



Differential capacitor tune, 2 stators, 1 rotor. 2 controls to precision tune, ceramic body roller inductor and high power balun. Peak and Peak Hold dual cross-needle metering.
- 1200 watts pep
- 160m to 20m(1200+/-j1200), 10m to 15m (1000+/-j1000)
- Output to balanced & unbalanced lines
- 20-1200 ohms Impedance match range
- 6 pos. mode switch for multiple antennas
- Meter power range 0-300 W / 0-3000 W
- 270 mm w x 115 mm h x 280 mm deep.

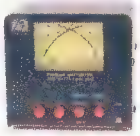
AT-AUTO

1500 Watt Automatic Antenna Tuner



Auto-tuners have been around for years, with clacking relays and matches always just a little bit off. Palstar has **reinvented** the auto-tuner with continuously variable components for a perfect match , and boosted it with 1500 watts, the highest power-rating about. It interfaces to most recent Icom, Kenwood and Yaesu transceivers and automatically tracks band and frequency changes. Field Updatable Firmware

PM2000A Watt Meter

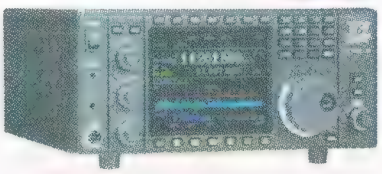


The PM2000A measures and displays forward power, reflected power, and SWR simultaneously on its dual movement meter system in the frequency range. Accuracy is assured by a true shielded directional coupler. The backlit meter can display either peak or average power readings, and has 300 and 3000 watt range settings. QST found that the Palstar WM150 is the only wattmeter that has true Active Peak Reading. The PM2000A is the next generation of watt meters from Palstar.

• Go to eHam.net for independent product reviews on these 5 palstar stars • Go to our website for full specs on them

OMNI-VII is the first truly Net-Ready ham transceiver.

America's Best! TEN-TEC

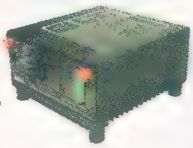


• No PC required at the rig to operate remote! • Delivers live receive AND transmit operation from anywhere in the world from wideband Internet access! • A simple GUI written for the OMNI-VII downloadable free or latest GUI source code can be downloaded to DIY • Three built-in filters at 20 kHz, 6 kHz, and 2.5 kHz Optional Collins mechanical filters at 500 Hz and 300 Hz. • Filters are auto or manual. • 37 built-in DSP filters. • Transmit 6 - 160 meters, 100 watts Receive from 500 kHz -30 MHz continuous plus 48 to 54 MHz. • SSB, CW, AM, FM, Digital modes. • 17 selectable transmit bandwidths. • RX EQ and TX EQ in 6 db/octave filters selectable in 1-dB steps. • DSP Noise Reduction, auto or manual notch.

The Ten-Tec Orion II

represents an entirely new concept in high-performance HF transceivers. It delivers the finest performance level to date from an amateur transceiver.Its heart is a pair of 32-bit floating-point ADI SHARC DSP processors.giving much more processing "horsepower" than a single 32-bit DSP processor can provide. The result? Absolutely unparalleled HF receiver performance, filtering, and flexibility. Full dual receive capability. An amateur-bands-only main receiver, (10 through 160 meters) utilizes both crystal and IF-DSP filtering. The sub receiver is IF-DSP and is general coverage from 500 kHz to 30 MHz. Both receivers can be used simultaneously on any frequency, with no compromise in performance. The two receivers can share a single antenna or each can be fed to a separate antenna.

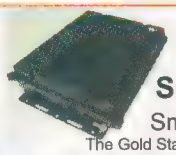
SGC SG-500 Power Cube HF Amplifier



An HF linear amplifier ideal for high power operation in portable, mobile and base station situations. It can deliver up to 500W CW or PEP with as little as 35W drive. Fully automatic bandswitching and RF detect PTT. It uses one of the most advanced self protection systems on the market to provide maximum stability and reliablity FCC Certified.

SGC

Visit our web site for further details on these fabulous SGC products or call for a brochure.



SG-230 SmartunerTM

The Gold Standard

The SG-230 Smartuner was the first product in the HF market to offer fast, flexible tuning without any user interface. The Smartuner senses RF when you transmit from your transceiver and automatically finds the best SWR match to your antenna. This unit works with ANY radio and ANY antenna and requires NO special interface, making it the most versatile tuning product available.

SG-235 SmartunerTM SMART POWER

Smartuning at 500 Watts. The SG-235 achieves perfect coupling of your 500 Watt HF-SSB and your antenna in mobile, or fixed base applications. It has a durable, waterproof ABS plastic case and a shock mount option. With a sophisticated Pi-L network and over 1/2 million tuning combinations, the SG-235 is the smartest way to tune at 500 Watts.

SG-237 SmartunerTM

Built to last, high density surface mount components on a 4 layer PCB, gives high efficiency, reliability and performance. Its sturdy chassis gives excellent electrical and RF ground system. Waterproof (under 2 ft of water for 24 hours). Base, mobile, portable, marine or aviation. Balanced or unbalanced antenna including whips, backstays, dipoles, loops and longwires.and needs only 28 feet of antenna for full coverage operation.

We supply RF cables terminated with professional grade connectors to suit your application.
Call for a price

AMIDON POWDERED IRON & FERRITE CORES
Coaxial Cables and Connectors

TTS Systems Communications Equipment

www.ttssystems.com.au FREE CATALOGUE

HF and VHF Transceivers, Autotuners and Kits

Phone 03 5977 4808. Fax 03 5977 4801 info@ttssystems.com.au

A balanced antenna matching unit

Ron Sanders VK2WB

I have always favoured open wire feeders and centre-fed antennas which can be used on all HF bands. This arrangement means that you must have an antenna tuning unit (ATU) to provide a good match on the amateur HF bands. I have used a homebrew Transmatch ATU for many years with this system, but it is much larger than the 100 W transceiver and now looks out of place.

It occurred to me that a simpler system could be used to match the 50 Ω output from my transceiver to the odd impedances presented by my random length doublet with its 450 Ω ladder-line feeder. As I am not a band-hopping operator I reckoned that I could devise a small system, which would only need a simple plug-in module for each band. I started with 7 MHz.

A very useful set of programs written by G4FGQ has one called t_tuner.exe (Ref. 1), which produces an LC network for matching an input impedance (Zin) and an output impedance (Zout). The program is essentially for matching an unbalanced input and output, but I thought that by providing a 50 Ω 1:1 balun between the input and the matching network I would have a balanced output to suit my set-up. My matching system is shown in Figure 1.

The T-Matching network (Figure 2) is similar to the circuit of the Transmatch, consisting of two capacitors and one inductor.

I had several multiplate 500 V compression trimmers (Ref. 2) in the junk box, which enabled easy removal of plates (mica dielectric) to allow setting the maximum capacitance. The original trimmers had ten plates, which gave a range of 500-1500 pF. With only two plates the range was 10-60 pF. By modifying several of these capacitors I was able to cover a range from approx. 10 – 500 pF with three units.

Construction

To enable low loss connections to the plug-in module I got some banana plugs and sockets from the local electronics store and soldered the metal plugs into a piece of printed circuit board measuring 75 x 45 mm. I offset the plugs to prevent inserting the module into the panel the wrong way around. The module is shown in Photos 1 and 2.

The mounting panel has the balun wired at the back and is shown in Photos 3 and 4.

The completed unit is contained in a plastic box measuring 160 x 95 x 50 mm (w,h,d) with an aluminium front panel. There is space available on one side for a future piece of equipment. Photo 5 shows the completed unit with the 7 MHz module mounted.

The balun has 2.5 turns of RG-174 coax through a BN-43-7051 balun core (Ref. 3).

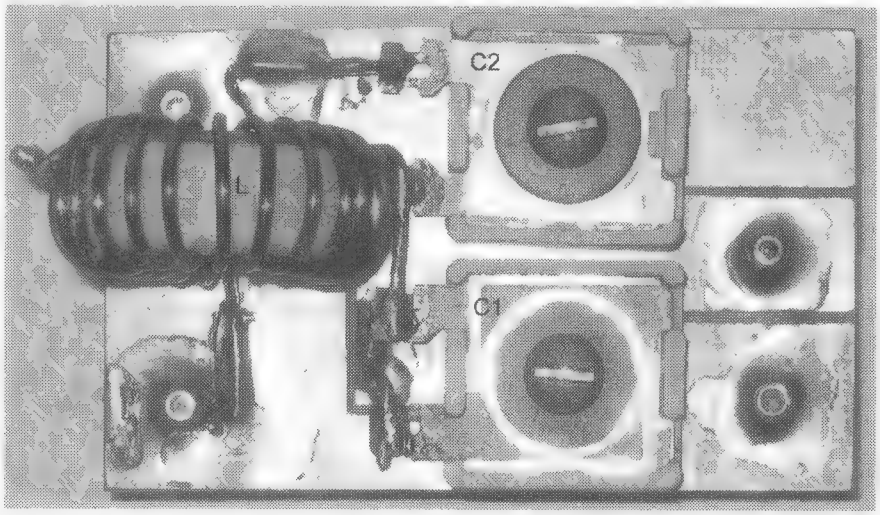


Photo 1

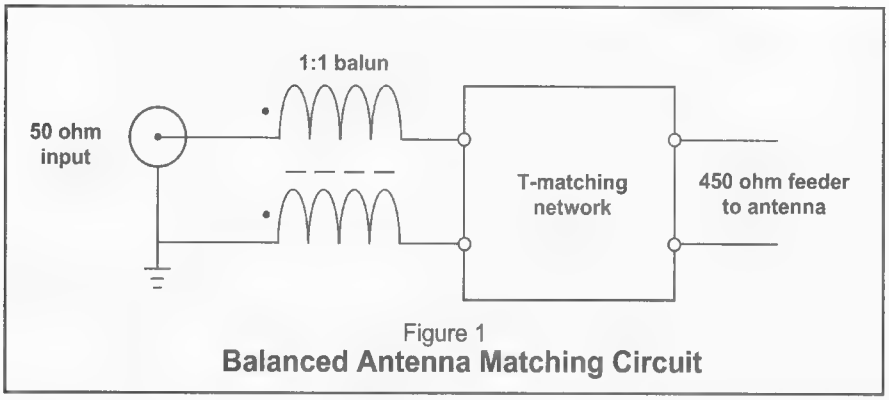


Figure 1
Balanced Antenna Matching Circuit

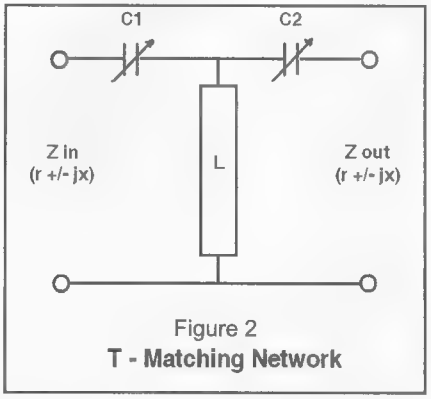


Figure 2
T - Matching Network

Testing

Every antenna system will have different values of impedance, so the following conclusions are only applicable to my setup.

This has 450 Ω ladder-line feeding a balanced V-shaped antenna with approximately eight metres each side of the feed point.

I had no idea what the values of (r +/- jx) were at the end of the feeder at 7.1 MHz, so I made a calculated guess that r would be somewhere between 500 and 1000 Ω. The value for x was a complete mystery. I assumed that the balun would not cause any problem with the calculations in the program.

The program provides very useful information apart from the values of C1, C2 and L.

I started by entering the load resistance in steps of 100 Ω beginning at 500 and going up to 1000 and load reactances from –200 up to +200. The results showed that the spread of values over this range were as follows.

C1 80 – 150 pF
C2 30 – 150 pF
L 3.5 – 5 μH

I wound toroidal coils with values of 3.5, 4, 4.5 and 5 μH.

My station has an SWR/power indicator on the output from the transceiver followed by a 32 MHz low pass filter and then a Transmatch ATU, which has a balun on the output.

I replaced the Transmatch with my new network and tried many combinations of C1, C2 and L at 7.1 MHz until I achieved the lowest SWR along with maximum power output.

The final values were: C1 = 95 pF, C2 = 40 pF, L = 4.5 μH.

By manipulating output values for (r +/- jx) in the program I was able to find the settings, which produced the same values for C1, C2 and L as I had obtained experimentally.

This showed that the input impedance of my antenna system at 7.1 MHz was (835 – j216) Ω and the input matching to the network card was (49.9 – j0.3) Ω. These results show that the input match is very close to (50 + j0) and the antenna system has a high impedance as expected.

Any effect due to the balun is included in these results. I guess this back to front method can be called reverse program engineering.

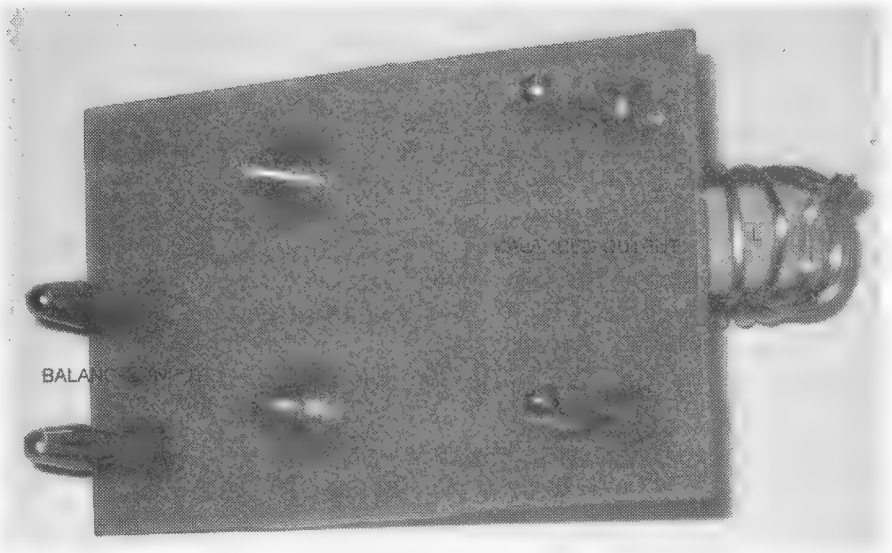


Photo 2

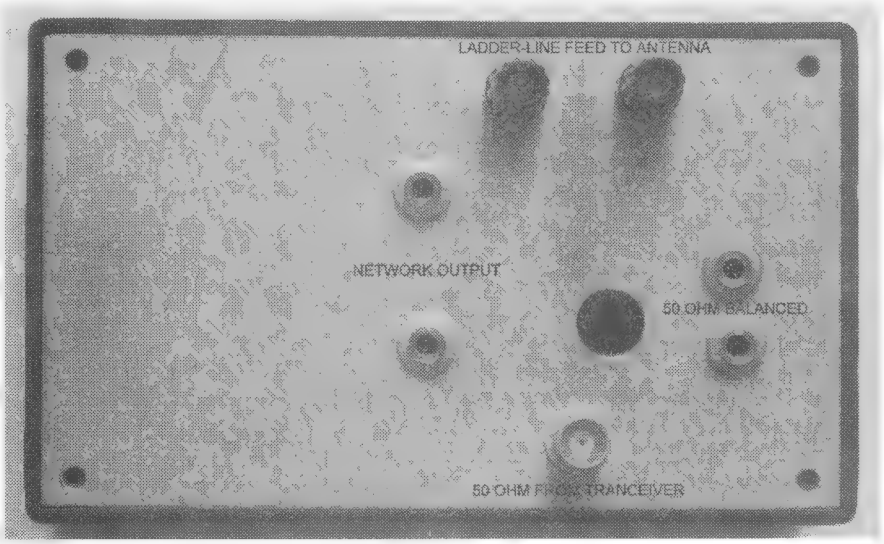


Photo 3

Results

The bandwidth appeared to be adequate as the SWR remained below 1.3:1 from 7.0 up to 7.3 MHz, with a minimum close to 1:1.

The program provides voltages and currents associated with each component in the network so that you can select components with suitable specifications. To illustrate this I have included a table applicable to my system at 7.1 MHz.

Note the dissipation in L is 5 W and

Measurement	Value	Measurement	Value
Power Efficiency	94.5%	Volts at input	71 V rms
Total Loss	0.24 dB	Current at input	1.42 A rms
Dissipation in C1	0.4 W	Volts across L	325 V rms
Dissipation in C2	0.1 W	Current through L	1.53 A rms
Dissipation in L	5 W	Volts at output	305 V rms
Voltage across C1	449 V pk	Current at output	0.33 A rms

the voltage across the winding is 325 V. I have used a T-106-6 (Ref. 3) because I had one, but it would be better to use a T-106-17 or T-106-0 to restrict the temperature rise. You can select a suitable core by using the program minirk.exe (Ref. 4), which will show the expected temperature rise for specified conditions of operation. Also, note that the capacitor voltage rating should be not less than 500 V.

I initially tried conjugate matching with an L network (Ref. 5), but found the RF power efficiency was noticeably less – probably nearer 60% compared with nearly 95% using this system. This was later backed-up by a reference on the internet (Ref. 6).

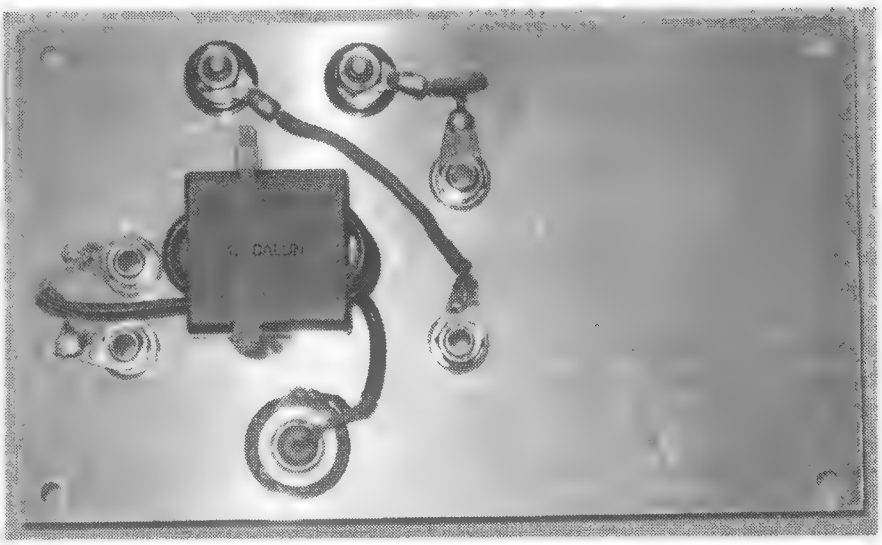


Photo 4

Conclusions

The unit described is very simple to construct and hopefully will appeal to some of the new hams who want to put up a simple HF antenna which can fit into available space. Maybe the use of some "free" programs from the internet will encourage others to experiment.

References

1 http://www.smeter.net
2 http://www.surplussales.com
3 ads in AR for Amidon cores
4 http://www.dl5swb.de
5 http://www.smeter.net
6 http://www.analog-rf.com

ar

Photo 5

Help wanted

Teleradio Wireless Journal

The WIA has received the following call for assistance:

It will be appreciated if you can ask around if anyone has in their back yard garden shed:

"Teleradio Wireless Journal" dated June 15th 1936

This was a weekly magazine published in Brisbane by Telegraph Press from 1933 until the 1940s or possibly later. The June edition had an article about the wood carvings at the Peel Island leprosarium.

Trying to track down a copy of the June 15th edition has been unsuccessful. The Jan to April 1936. The UQ Fryer Library has 1935 and 1941 editions only. The NLA, Canberra, has the first copy in 1933. None of the other State Libraries has any editions. The Mitchell Library in Sydney is where the Wireless Institute of Australia donated all their material but alas the journal I am seeking is not there and neither do any of the Australian archive bookshops have a copy.

Thank you very much – Rhonda

Anyone with information can forward it to Rhonda via:

chrisayres@bigpond.com

ar

SES/QPS/WICEN practise techniques

Gavin Reibelt VK4ZZ

A Joint Exercise to practise for possible summer emergencies was held by the Townsville Thuringowa SES with help from WICEN on the weekend of October 27 and 28, 2007 in parts of the Paluma Range and Crystal Creek Valley. The scenario for the exercise was that six youths had attempted to hike from the Little Crystal Creek Bridge down the valley and were overdue. The group were also carrying EPIRBS.

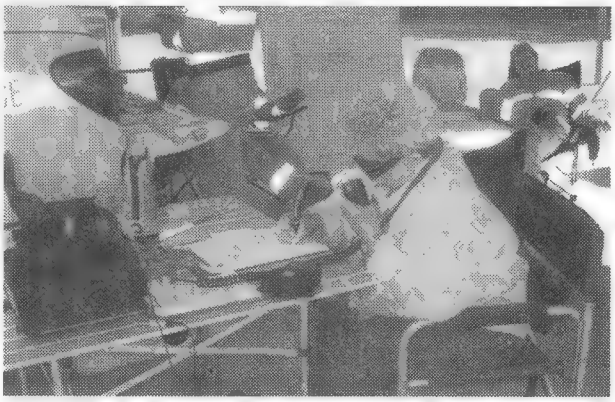
WICEN operators met at SES HQ Green Street to join the SES Briefing, and then travelled in sections up to Mutarnee State School to help establish an Emergency Base. Helping out at base were Joan VK4FTVL and Colin VK4UCM, utilising the side of their large camper-truck to hoist a VHF co-linear antenna high into the air on the end of a field pole.

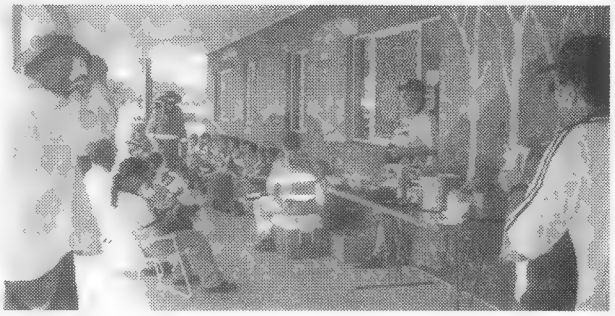
Assigned to the search teams that would eventually traverse terrain classed as severe were Nick VK4ZXX, Phil VK4HSV, Steve VK4SJW and Roger VK4CD - utilising radio back packs that mostly had been refined from use in many comms support events such as the Magnetic Island to Townsville Swim. Revving around the mountains in the "Repeater Car" was Lyndall VK4ZM and Gavin VK4ZZ – toting the well secured TARC WICEN VHF repeater in the back of the Troopy searching for the optimum spot to provide good contact between the search parties and Base whilst also performing a radio survey for the SES on UHF frequencies.

During the first day of the exercise ALL communications were routed via the WICEN operators on VHF as the SES UHF frequencies proved to be ineffective in the dense rainforest and severe terrain. Despite aching muscles and fatigue the search team operators were at it again in the same rugged area the next day.

During the second day of the exercise WICEN operators provided backup communications while the SES placed a UHF relay vehicle at some likely spots identified by the radio survey during the previous day and successfully provided primary communications by manual relay most of the time.

The search parties also got to practise RDF techniques in finding the practice EPIRBS, units that had been specially modified to the 121.4MHz practice frequency by Roger VK4CD. All the search party operators commented on the very rugged terrain and the very humid weather conditions which contributed to some SES search party members suffering heat stress. The roving Repeater Car had an additional welfare benefit being able to deliver much needed water to those search parties that had made it back up to the road but had run out of water. At base Joan and Colin managed to fill over 20 pages of WICEN logs during the exercise whilst providing an efficient conduit between exercise co-ordinators and the teams in the field.





During the Sunday afternoon debriefing SES made it very clear that they want radio amateurs involved closely with exercises and callouts and valued highly the added benefits of having reliable operators and communications to help maintain contact.

Congratulations to Nick, Phil, Steve and Roger who did it hard in the field and survived!

VK3s move north

Husband and wife team Colin McDonell VK4UCM and Joan McDonell VK4FTVL were active members of WICEN Vic for a few years before moving up north.

Colin was VK3UCM and Joan did most of the operating. Joan did try studying for her licence while a member of Healesville Amateur Radio Club but finally obtained her Foundation licence when they settled in Northern Queensland.

Colin and Joan were for many years part of all WICEN activities in Victoria, such as the Murray Marathon, Ski 80, Sea Lake, Mt Disappointment, Y2K as well as Alexandra with Peter Weeks and Gippsland events with Chris Morley.

Colin's call sign was VK3UCM which he held since 1992 and both originally came from Yarra Glen. They were members of the Healesville Amateur Radio Group as well as Region 4.

They were accredited as a team, Colin as Station Manager and Joan as Message Handler. Joan was sent to Corryong during the 2003 fires.

Colin and Joan are now permanent residents of Townsville, Qld and are members of Townsville Amateur Radio Club as well as WICEN Qld.

They are still doing events. Some are swimming, horse trials and hill climbs and this year were involved with the SES training as well as running the radio for JOTA. Colin is still the technical person whilst Joan mainly works the radio at events.

Colin is now accredited with his CAMS Licence and Joan has completed her training and is just waiting to mail the forms off.

ar

Five Examples of Having Fun with

Have you ever thought how you could access the Internet via amateur radio?
What would it be like to hear crystal clear communication via handheld or mobile city to city, country to country?
Would you like to send SMS type with Optional IC track position data. Then you could locate or check their progress on the Wi
Maybe you are part of WIRES needing to triangle voice and with modes and time ...Send voice, files and pictures

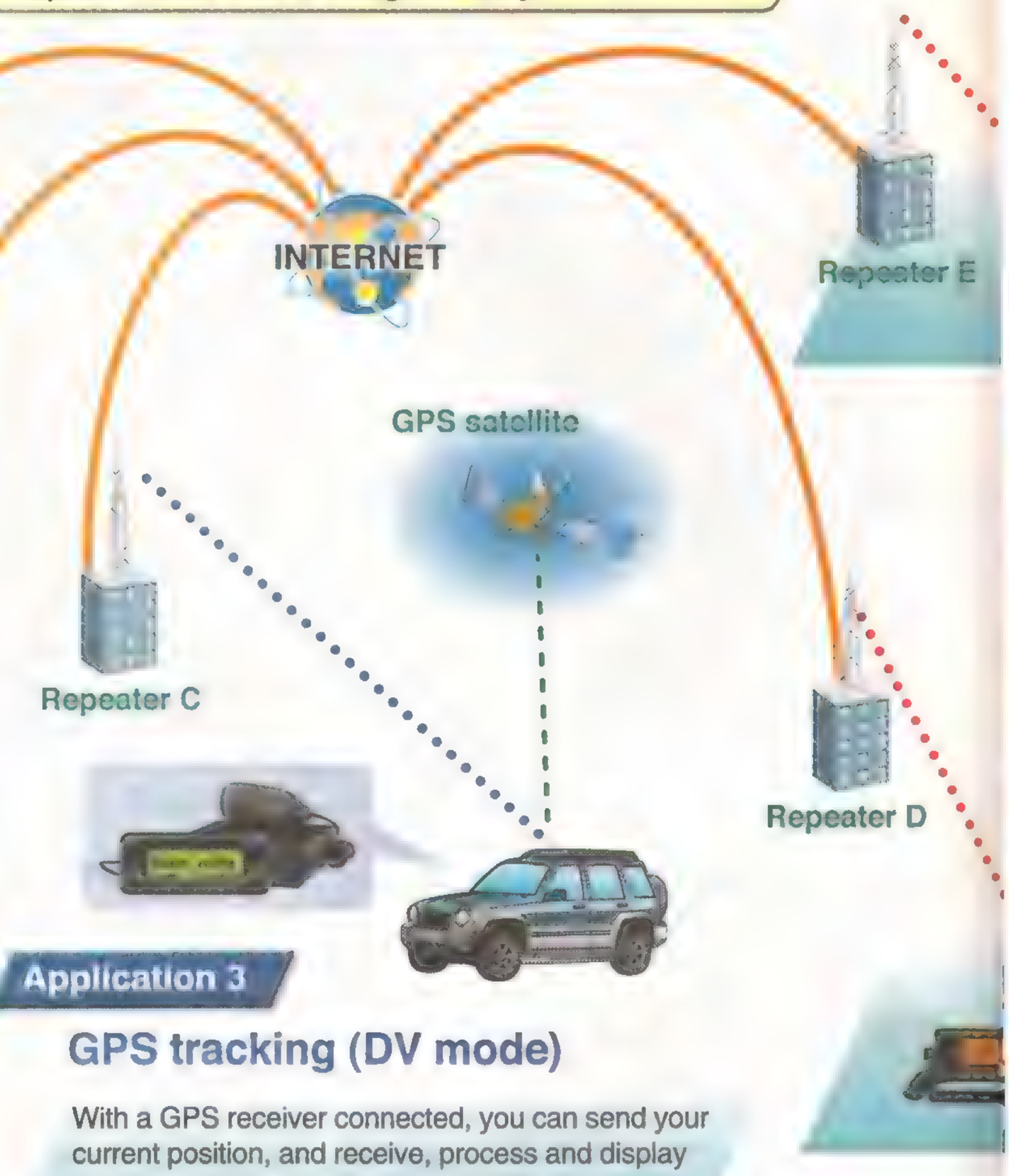
Application 1

Digital voice (DV mode)

Analog audio is modulated to a digital signal and transmitted in the digital mode signal by the D-STAR radio.

Internet connection*

The Internet gateway allows linking of D-STAR repeater sites over the Internet. You can uplink to your local repeater and downlink from a remote repeater, even from a foreign country!



Application 2

Short data message (DV mode)

Call sign identification and short data messages are available.

Application 3

GPS tracking (DV mode)

With a GPS receiver connected, you can send your current position, and receive, process and display position data from the received station. (IC-2820H**) Beacon to the DPRS/APRS® Network, and you'll be on the map with "UI-View®.

Internet
DV mode (4.8kbps)
DD mode (128kbps)

* Some restrictions may apply depending on specific countries' regulations.
** With optional UT-123 D-STAR PCB and GPS .

ICOM Demand Reliability and Performance, Insist on ICOM!

For more information c
or find your local autho

D-STAR

time at 128Kb/s, Enter D-Star!

Application 5

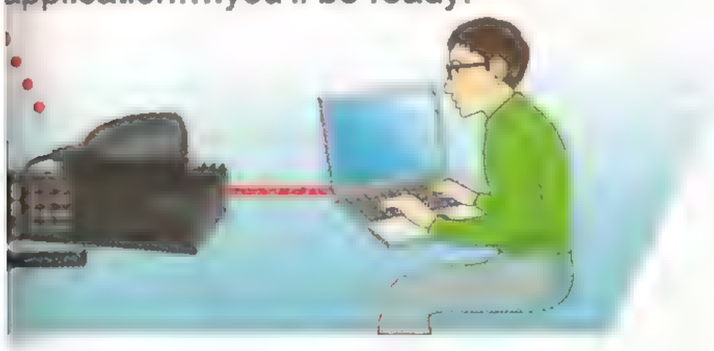
IP camera (DD mode)

You can transmit live images in DD mode and watch real-time images from a remote location.

Application 4

Internet access (DD mode)*

In DD Mode at 128 Kb/s you can access the Internet to other D-Star zones in Australia or anywhere a D-Star system is connected .even Kazakhstan! Connect a PC to an ID-1 and you can browse D-Star system websites, local info-kiosks, check e-mail, FTP…just about anything. D-Star is open and non-proprietary, just wait for the next application….you'll be ready.



l ICOM Australia on (03) 9549 7500
sed dealer at www.icom.net.au

Frequently Held Myths About D-STAR

GET THE FACTS!

1. "D-STAR only works on 1.2 GHz."

FACT

Low-speed DV D-STAR voice and data works just fine at 144 and 430 MHz. 1.2 GHz supports the bandwidth needs of high speed DD data. Choose the technology that satisfies your needs.

2. "There's no difference between D-STAR and packet"

FACT

Even D-STAR's lowest speed is competitive with the highest-perfromance packet systems available today. D-STAR's simultaneous digital voice and data at 4800 bps is beyond the capability of any packet technology. Hi-speed D-STAR systems are ten times faster than the highest packet speeds.

3. "D-STAR is no different from IRLP or Echolink®"

FACT

VOIP systems like IRLP and Echolink® are only capable of routing voice signals. They don't support data exchange at any speed. Calls targeted to a specific user are not possible by any amateur technology except D-STAR.

4. D-STAR is just a digital party line!"

FACT

The ability of D-STAR repeaters to route data and digitized voice worldwide sets it apart from a single party line. Sophisticated D-STAR controllers and gateways implement modern telecommunications functions in an amateur package.

5. "D-STAR is a replacement for broadband home internet"

FACT

Truly a fantasy! D-STAR can connect a user to the internet, true, but all of the amateur radio restrictions on commercial activity still remain in place. D-STAR will provide the tools for a lot of great amateur innovation, but it's not intended to replace Internet providers.

6. "D-STAR won't work with APRS®"

FACT

Except for the ID-1, All D-STAR radios can do DPRS when connected to a GPS receiver. The exciting thing is, with D-STAR being an open protocol, software experimenter, Pete Lovell AE5PL, has written a program that interfaces DPRS to APRS® and sends the converted APRS data to your APRS IS gateway. This means you can see all the new D-STAR stations on UI-View®. With the "D-STARTNC2" application, any D-STAR repeater with a gateway can send DPRS □APRS data to the APRS Internet system. The D-STAR team will be implementing this interface in Australia.

7. "I'll be locked into Icom equipment forever."

FACT

While Icom is the first manufacturer to support D-STAR, any manufacturer or amateur can use the JARL standards to create equipment – transceivers, repeaters, and gateways – compatible with the D-STAR system. As the D-STAR system grows, look for other manufacturers to join the fun.

News from...

VK2

Tim Mills VK2ZTM
c/- vk2wi@ozemail.com.au

Clubs

The **ARNSW Veterans Group** skipped their meeting last month due to the Easter period. They meet again this month on the third Thursday (17th) at VK2WI.

The **Waverley ARS** have renovations being carried out to their club house/ meeting location at the Rose Bay Scout Hall. This brought about a special auction last month to dispose of their stock of goodies. This will not detract from their annual auction which is scheduled for Saturday 21st June.

Last month there was a report that the **Mid South Coast ARC** needed to remove their repeaters from the site they had for some decades. This occurred on the 3rd February after the new owners took over the site, requiring it to be free of RF. Also having to leave were a couple of community radio transmitters, as well as other services at the site. Hopefully all will be able to find sites equal in coverage and elevation to the former Little Forest Ranch site. The 2008 committee of the MSCARC are President John VK2WRT, VP Richard VK2JRB, Secretary Stephen VK2SJA and Treasurer Neil VK2XNF. Stuart VK2LSB and Noel VK2JG are committee members.

The **Newcastle Radio Club** is able to trace their formation back 80 years. Firstly as the Newcastle radio club, then as the Hunter Branch of the NSW Division and nowadays as the **Hunter Radio Group** (HRG). They meet on the second Friday evening at the local TV station. They have a news net on Monday at 7.30 pm via HF and area repeaters.

Illawarra ARS celebrate their 60th anniversary this year, having been the Illawarra Branch of the NSW Division before becoming the IARS. They meet on the second Tuesday evening at the Industry World Visitors Centre, Springhill Road, Coniston in Wollongong. They have an extensive network of repeater facilities - to which will now be added one of the two D-STAR systems allocated to VK2. This will provide coverage into the southern side of Sydney. IARS uses much of their network to relay the VK2WI news sessions. The web site is http://www.iars.org.au/

Manly Warringah RS is the other group allocated a D-STAR system. Their club location at Terrey Hills will cover northern Sydney and into the Central Coast. They meet on Wednesday evening at the Warringah Volunteer Services Centre. You can phone on club evenings 02 9450 1746 or check out the web site http://www.mwrs.org.au/

The **Central Coast ARC** welcomed 1600 through the gates to their annual field day at the Wyong Race Course in February. Hopefully all attending enjoyed themselves. There were a few difficulties on the day with no trains running to and from the Central Coast, no inside parking due to the recent heavy rain and a bit of rain during the morning. A field day the size of the Central Coast venture requires a lot of input from their club members. They need to be congratulated for the efforts they provided for the enjoyment of the attendees. Contact with the CCARC http://www.ccarc.org.au/ or phone 02 4340 2500. Licence instruction information is available from Greg 0418 614 813 or Ray 4325 2182.

The **Oxley Region ARC** is enjoying their new meeting location at the Port City Bowling Club on the first Saturday afternoon and second and fourth Friday evenings. It is only a couple of months until the annual Queen's Birthday Field Day weekend - 7/8 June.

WICEN NSW renewals fell due at the end of March. It was also the end of the financial year for WICEN and all Groups and Regions should ensure their affairs are in order. The Central Coast Region has their AGM scheduled for Saturday 12th April. A mailing list for those interested in WICEN can be accessed by sending a blank message to 'wicen-net-join@nsw.wicen.org.au". The web site is http://www.nsw.wicen.org.au/

ARNSW

This month – Saturday 12th – will be the ARNSW AGM at the Ryde Eastwood Leagues Club – 10 am. Members should have received their notifications and other paperwork by either post or e-mail. When nominations closed on the 1st March, the Returning Officer advised that seven nominations had been received for the nine positions on the council. Accordingly, a ballot was not required.

This month - the Harris Park post boxes will not be renewed. The new mail address for ARNSW is P.O. Box 6044, Dural Delivery Centre, NSW 2158. Those members who had their licence address via PO Box 9410 HP and have not been contacted by ARNSW should do so before renewals fall due for details about the future of this service.

VK2WI

Some TLC has restored the 23 cm repeater for the time being. This month we revert back to standard time with the Sunday morning and evening News Sessions – maintaining the same local time - 10 am and 7.30 pm. There is an hour change in UTC. These twice yearly time changes are a good occasion to renew the batteries in all those clocks and smoke detectors.

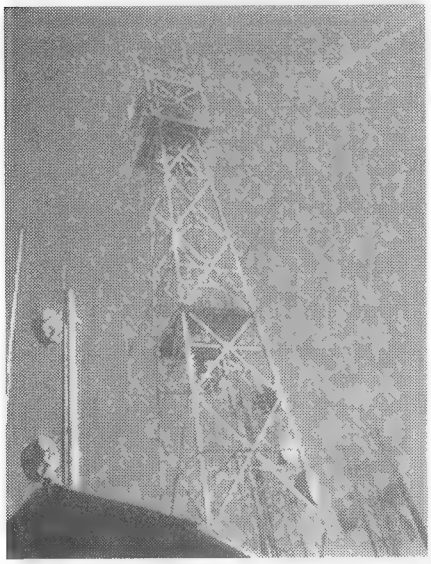
Besides the direct transmissions from VK2WI which are listed in the Directory page at the back of 'Amateur Radio' there are both automatic and manual relays provided for VK2WI. The automatic relays are provided through repeaters in the western Blue Mountains, south through the Illawarra region and north on the Central Coast, Newcastle and lower north coast. Further out - HF from VK2WI is received and replayed through repeaters in the far north Summerland region (Lismore and Byron Bay), the lower New England (Tamworth) and Central West (Coonabarabran, Dubbo and Tullamore). The VK2WI team greatly appreciates this effort provided by groups and individuals in extending the coverage. There is also some IRLP service provided by others. There are some other retransmissions not known to VK2WI and we would like to hear from those providing these services. Please send an email to arnews@tpg.com.au with the details.

73 – Tim VK2ZTM.

SARC outing: 30th anniversary of club repeater VK2RSC

John Alcorn VK2JWA.

The Summerland Amateur Radio Club celebrated the 30th anniversary of their club repeater VK2RSC on Saturday 8 July 2007 with a club picnic at the repeater site, Parrots Nest, about halfway between Lismore and Casino, on the Bruxner Highway.



The tower upon which VK2RSC lives.

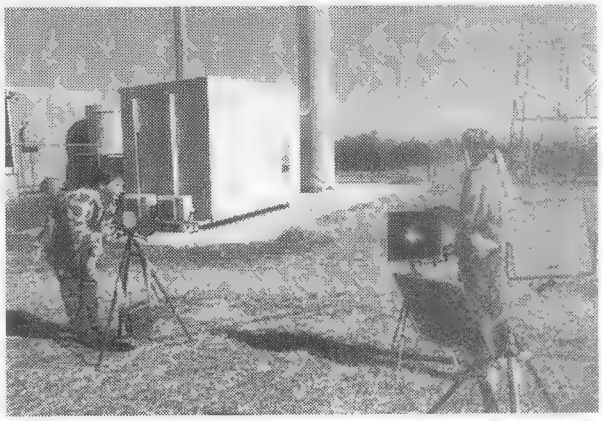
The weather was fine, and it was determined that the day was a great opportunity for some heliograph practicing.

Rob Gallagher VK2KGK, who lives on Hogarth Range, some 45 kilometres to the west of the Parrots Nest site, had taken an Mk V heliograph to his QTH, and set it up, while I had set up a Mk V and 25 cm (10") US type heliograph on site.

We had agreed to liaise on two metres and, after some trial and error, Rob got the flash from my large mirror, giving him an aiming point for his heliograph, and in a short time we also received his flash, which was easily visible over the 45 kilometre path.

We then exchanged Morse letters, slowly, HIHI.

Dave VK2ZDR and Amy VK2FCAT also practised using the device, and were quick to learn the technique. After this, Rob packed up and drove down to join the group.



Dave VK2ZDR and Amy VK2FCAT practicing with the heliograph training mirror

All in all, beautiful weather, good company, an enjoyable BBQ meal, and some amateur radio fun. An excellent day.

The photos give a glimpse of the activities enjoyed.

VK3

Amateur Radio Victoria News

Website: www.amateurradio.com.au
Email: arv@amateurradio.com.au
Ross Pittard VK3FCE

Lapsing callsigns

The failure to renew your amateur station licence can result in you losing your callsign forever because it has been re-issued to someone. The ACMA practice is, under most circumstances, to re-issue a vacant callsign.

The exception is when it is notified that a radio amateur has become a silent key and then the callsign is 'reserved' from re-issue for two years after its expiry date.

A number of radio amateurs for whatever reason do not renew their licences. This results in their lapsed callsign being available for re-issue, which is happening.

Importantly it is the licensee's responsibility to ensure their licence is current. It is not an excuse to claim a renewal notice did not arrive or a cheque in the mail went astray.

So how to you know if your licence is current and check on its expiry date? Visit the ACMA website http://www.acma.gov.au and check out the online register of radiocommunications licences.

This database is searchable by a number of categories including callsign, licensee surname and postcode.

This database is regularly used by licence candidates before they sit their assessments and wanting to choose a callsign preference from those which are not on issue.

When renewing your licence remember that you can do so for 12 months as a minimum or up to five years.

Foundation Licence Classes

Enrolments for the next Foundation Licence courses and assessment weekends on 19-20 April close soon. Inquiries to Barry Robinson VK3JBR on phone 0428 516 001 or arv@amateurradio.com.au

F-Troop Net

This weekly Sunday net for Foundation licensees and others is a welcoming, friendly and helpful on air session conducted by knowledgeable class instructors or assessors.

It is often the first time that new Foundation Licensees get to experience a net type operation. F-Troop is held at

about 11.15 am, straight after the Sunday morning broadcast call-backs, using the wide coverage Mt Macedon 2-metre repeater VK3RMM.

Membership renewals

Members whose two-year membership subscription to Amateur Radio Victoria falls due in either April, May or June will soon receive a renewal notice.

Thank you to those members who have renewed for the January-March membership renewal period.

Membership inquiries are welcome. It is easy and affordable to join and support Amateur Radio Victoria. Membership for two years is $30 for Full or Associate Member and $25 for Concession. Email us for a membership application form or download one from the website, or send us an email and get one in the post.

PRM80 Radios

We still have a limited supply of PRM80 radios which cover the UHF amateur band. These are available from the rooms at $120.00 each. They are programmed and aligned with the standard repeaters and many simplex channels.

These are an effective way to get on the 70 cm band for those who want a robust rig for the car or as a base station.

Annual General Meeting

Another reminder to members of the AGM to be held at St Michaels Hall, Victory Blvd, Ashburton on Wednesday the 21st of May at 8 pm.

Following the AGM an Open Forum will be conducted. Members can avail themselves of this opportunity to discuss any matter with the Council members.

VK5

Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

AHARS held their AGM recently at a different venue because of some double booking (thanks to Wally VK5TW for providing the alternative at short notice) at which the following positions were filled:

Club President: John Elliott VK5EMI, Vice President: Leigh Turner VK5KLT, Treasurer: Hans Smit VK5YX, Secretary: David Clegg VK5AMK, Committee: Christine Taylor, Jim Tregellas and Graham Dicker.

The Denis Greig Award for the amateur of the year was presented this year to Christine VK5CTY in recognition of her role in publicising the club in this magazine. (I was considerably surprised but appreciative of the honour).

A presentation was also made to Geoff VK5TAW and his XYL in appreciation of the suppers the club has enjoyed throughout the year.

The club members were reminded that this year is the 25th year of existence for AHARS and to expect some special activities to celebrate the occasion.

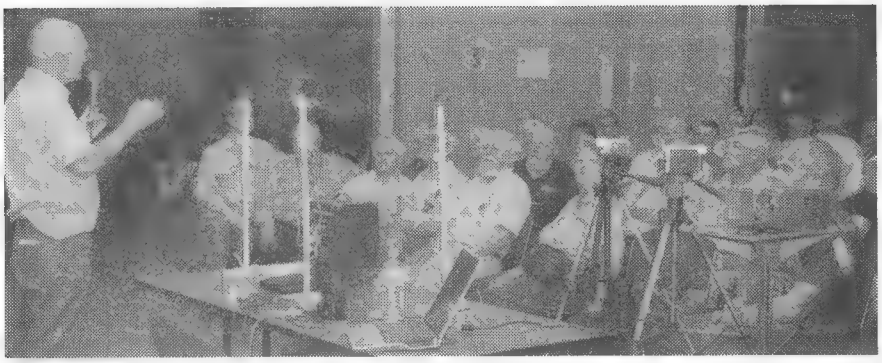
Tina VK5TMC spoke of the John Moyle Memorial Field Day Contest soon to be held and invited members to participate from home stations or at the Field Day site.

Paul VK5PH gave an interesting talk about his visit to the Friedrichshafen Hamfest last year. He had a PowerPoint presentation of the various venues within the complex to accompany his talk and then continued with some pictures of the beautiful gardens always mentioned in association with Friedrichshafen, and of the Zepplin Museum which is also nearby the really marvellous venue used for the Hamfest.

Last month, we mentioned the visit by Mike G3LHZ. Unfortunately, I had the callsign correct but the surname was wrong. Of course, our visitor was Mike Underhill G3LHZ. I offer my apologies to Mike for the error.

John VK5EMI presenting the Denis Greig Award to Christine VK5CTY

Geoff VK5TAW and his XYL Christine



Mike Underhill G3LHZ discussing his small loop antennas.

South East Radio Group 2008 Convention

held each year on Queen's Birthday weekend in June

- Australian Fox Hunting Championship.
- Tea, coffee, hamburgers and soft drinks for sale
- Commercial displays
- Pre-loved radios

For more information, phone Wayne or log onto our web site and follow the links to the convention pages.

http://serg.mountgambier.org/

For info or table bookings contact Wayne VK5ZX on (08) 8725 4335 or 0407 718 908

VK7

Justin Giles-Clark, VK7TW
Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

National ALARA Meet 2008

This national event will be held in Ulverstone on the 13 and 14 September 2008. It will be the 9th ALARA Meet and also will be a celebration of 33 years of ALARA. Susan Brain VK7LUV is the coordinator of the Meet and can be contacted on the email: vk7luv_susan@yahoo.com.au More information can also be found at: http://au.geocities.com/vk7luv_susan/

Athol Johnson Memorial Contest

This VHF and UHF eight hour contest has been successfully revived after a break of 25 years and was run on February 16. There was a flurry of activity with many mobile stations heading to high ground. Multipliers were available for mobile and Foundation licence holders and mobile operation enables shorter re-contact time. The John Grace Perpetual Trophy has also been introduced this year for the Foundation licensee who accumulates the most points in the contest. Stay tuned for the contest winners in the coming months.

New VK7 BPL Reports

Two new BPL reports dated September and November 2007 are available on the VK7 BPL Watch page at http://reast.asn.au/bpl/ These include a comprehensive HF Noise Floor chart prior to installation of BPL in South Hobart and two charts following the activation of BPL. These measurements clearly demonstrate that BPL emissions account for an increase of between 20 to 40 dB in a noise floor – that is between 100 to 10000 times higher than the pre-BPL noise floor level. Thank goodness it has gone!

North West Tasmanian Amateur Radio Interest Group

Jim VK7OW is a member of NWTARIG and holds the honour of being the oldest VK7 amateur as he soon turns 95. Jim is going strong and is an avid DXer. There is a new EchoLink node in the Ulverstone

News from...

The Athol Johnson Memorial Contest Trophy

area with Tony VK7AX establishing VK7AX-L (100478) on 145.350MHz. It is permanently connected as a conference link to VK7HBR-L (311574) in Launceston with a radio frequency of 145.425 MHz.

Northern Tasmania Amateur Radio Club

The NTARC AGM on February 13 saw the following election results: President: Al VK7AN, Vice-President: David VK7YUM, Secretary: Jason VK7ZJA and Treasurer: Ann VK7FYBG. Brian VK7RR gave a presentation on the Stepp-IR antenna system and remote controlling a ham station via the internet. A fascinating talk, thanks Brian. Greg VK7YAD was presented with a lifetime NTARC membership certificate for his efforts with BPL and related matters. Congratulations Greg.

Regular educational broadcasts are being heard in the Launceston area on 145.425MHz at 7:30pm each night via the EchoLink node (311574) of Rick VK7HBR and John VK7NJD. Call-backs after the programs would be appreciated.

WICEN Tasmania (South)

By the time you read this report, Targa Tasmania 2008 will be almost underway. The event runs from April 15 to 20 and there is a large dedicated group assisting with the provision of radio communications this year. It was great to see a feature article on Ron VK7ZRO and XYL Marcia on the Targa Tasmania Website. Ron and Marcia have been involved since the first Targa in 1992.

Radio and Electronics Association of Southern Tasmania

There is a new SSTV Gateway available in the South. Danny VK7HDM joins Tony VK7AX in the North West with an SSTV repeater gateway via SlowScanTV.net, which is a worldwide network of SSTV gateways.

It is available in the South on 145.625 MHz. Wireless networking is now available at the REAST Clubrooms thanks to Ben VK7BEN. Have a chat with him if you would like to use it and he will provide the WPA key.

The ATV Experimenters nights have run throughout the holiday period with many people coming up to the Domain ATV Studio. Some of the special guests have been Mike VK7MJ, John VK7FJGM, Ken VK7KKV, Ray VK3HSR/7 and Wally VK5TW/7. Thanks to many people who have donated equipment; if it was not for them we would not have the great facility we have been able to build.

Our first Foundation Licence course and assessment for 2008 was held on Saturday 23 February and we welcome three new Foundation licensees: Frank McIvor, Tony Lathouras and Sam Lathouras (Sam is Tony's 11 year old son).

Ben VK7BEN gave our March presentation on running a multi-multi contest station on a budget. Murray VK7ZMS, Richard VK7ZBX, Clayton VK7ZCR and Ben VK7BEN went to Penstock Lagoon in the Central Highlands and ran club station VK7OTC for the Remembrance Day Contest last year. This was a very entertaining presentation complete with video of the preparation and actual contest operation. Thanks Ben.

ar

BARCFEST 2008

When? Saturday 10th May

at Mt.Gravatt Showground

1600 Logan Road Upper Mt.Gravatt.
27 deg 32 min 40.47 sec South
153 deg 5 min 00.05 sec East

Opening time 1000 hrs EAST

Club Displays•Commercial Displays•Disposals
Sales•Computer Gear•Canteen

Plenty of off-street parking

Contact Les Parker VK4ZLP **on** 07 3343 7247
or mobile 0413 377 045

OR

Visit the BARC Website at http://www.qsl.net/vk4ba and select Barcfest for full details of venue location as well as an application form for table space and other important information...

Tony Hutchison VK5ZAI receives Johnson Space Centre Group Achievement Award

Robert Broomhead VK3KRB

Australian amateurs can be proud of Tony Hutchison VK5ZAI who has just received the Group Achievement Award from the Johnson Space Centre and signed by JSC Director Michael Coats.

Tony is the Australian coordinator for ARISS or Amateur Radio on the International Space Station. Through ARISS, hundreds of schools around the world have been given the opportunity to speak with the astronauts aboard the International Space Station via amateur radio.

In writing to the WIA, Tony says he enjoys amateur radio and says he particularly likes "giving back a little of what others have given him over the years." Not really expecting the award, he said that "the most rewarding part is to see the excitement on students' faces when they first hear the Crew on the ISS reply to an ARISS call."

The first school Tony assisted was Loxton High in South Australia back in 1992 when he asked Alex Serabrov on Mir if he would speak with the students and answer their questions. The first student to win the Andy Thomas Scholarship was a Loxton High student, who Tony believes may now be studying at the University of Adelaide.

In 1998, Tony handled most of the communications between Andy Thomas and his family during his flight on Mir and in the year 2000 Tony was asked to join the ARISS team as one of the 9 approved telebridge stations around the world. Soon after, Tony was handling most of the private family contacts for the first 3 crews on the ISS along with the scheduled school contacts.

In 2001, Tony and his wife Jill received a personal invitation from NASA to meet the various crews soon to fly on the ISS and space Shuttle. They attended the launch of the second ISS crew on shuttle flight STS-102 at Cape Kennedy with the crews' family, and met the first ISS crew when they returned to Earth on the shuttle 12 days later. Shortly afterwards Tony was asked to become a School Mentor assisting students and teachers prepare for their scheduled ISS contacts.

As a telebridge station, over the years Tony has linked the ISS to schools in most countries around the world. When school linkups became more common he was asked to contribute ideas on linking EchoLink and IRLP to the ARISS student contacts so it could cover a broader spectrum of amateurs throughout the world. The resulting implementation of IRLP and EchoLink for ARISS contacts has become popular and very successful.

In 2006 Tony helped Bill McArthur on board the ISS check out the new Kenwood D-700 and back on the ground assisted with the design and construction of interface units and patches used for ARISS telebridge contacts in Australia and Europe.

During his 16 years associated with manned space flight, Tony has been called up several times by Mission Control to handle emergency situations that have occurred. Members may also be interested that at present Australia rates third in the world to have had the most scheduled ARISS linkups with the ISS. Tony is very enthusiastic that, through working together and with our schools, we can maintain this position.

Recently Tony has been appointed to the ARISS selection committee. ARISS work as a world wide team of licensed amateurs whose main ambition is introducing Amateur Radio and technology to students around the world by giving them the opportunity of using our hobby to speak with the Astronauts on the ISS as it circles the Earth.

The WIA congratulates Tony Hutchison VK5ZAI on his receipt of this most prestigious award.

ar

National Aeronautics and Space Administration

Lyndon B. Johnson Space Center

Group Achievement Award

Presented to:

Tony Hutchison

Amateur Radio on International Space Station Team

For providing sustained outstanding engineering support which resulted in a record number of successful ISS amateur radio contacts.

May 25, 2006

Date

Director

The Award Certificate presented to Tony Hutchison

ALARA

Christine Taylor VK5CTY

The AGM

Do not forget that our AGM will be held on air on the first Monday night in May. That is Monday the 5th May 2008. We will use 3.580 MHz +/- 5 kHz and start at 1030 Zulu. This is always a well attended meeting; Let us not spoil that record.

Nominations have been obtained for all positions, as you will have seen in the ALARA Newsletter so there is no need to fear being put onto the committee unwillingly. Just join in to add your name to the list and to have a vote.

Two Field Days

On 10th February it was the Kyneton Field Day and one week later on the 17th it was the Wyong Field Day. There were active ALARA tables at both of these events.

Kyneton

Jean VK3FJYL was ably assisted by Margaret VK3FMAB, Michi VK3FMEG, Cristina VK3FCRS, Jane VKFAYL and Michele VK3FEAT, although Michelle also had one eye on the WIA (Vic) table she was also helping to staff.

It was great to see the 'newbies' enjoying being the public face of ALARA. Jean has also been the main organiser behind the morning teas at the coffee shop and the bi-monthly luncheons and she has been nominated to take over from Pat VK3OZ as the VK3 ALARA Representative.

During the day at Kyneton two new members were enrolled and several other application forms were handed out.

Jenny VK5FJAY and myself, Christine VK5CTY, drove over to the Field Day. We were welcomed with open arms. It is lovely to see people you have heard on the air, as we all know.

Wyong

This is the report Dot VK3DB sent me:

The ALARA table was busy all day at the Wyong Field Day. It is better to be busy than have no one visit at all. Two new members joined: Sharni VK2FGKC and Megan VK2FGGL and they took forms to think about ALARA meet Tasmania. Karen VK2AKB came up for a very quick 'hello' as she was working downstairs.

Other ALARA ladies visiting the table were Diane VK2FDNE and Lisa VK2FOXE, Anne VK4ANN and Agnes VK2GWI. Nancy Karas brought her knitting and sat at the table most of the day except when the prizes were being drawn. For some reason the PA system was not working on the first floor, so we had to go elsewhere to catch the numbers.

Nancy went downstairs to hear the numbers drawn and was lucky she did, as she won a Digital Multimeter and then she won the lucky door prize, or rather the entry gate prize, an ICOM VHF/UHF Digital Transceiver ID-800H. She will really have to try for her Foundation Licence now.

Someone I was delighted to meet was Pierce VK2APQ when he visited the table wearing his Quarter Century Wireless Association badge. (For many years Pierce was the WIA Representative for VK2 and is known by many of the older amateurs. Sorry I was not there to meet you, also – from Christine VK5CTY)

Catherine Freyne from the ABC came to the table to talk to someone about ALARA and Florence McKenzie so I took some books and history out to show her.

The VK4 Luncheon: L-R sitting: Daphne VK4IA, Jan VK4FJAN, Kaye VK4VKS and Sheralyn VK2LUV.
Standing: Catherine VK4VCH, Marisa VK4FMAR, Jenny VK4FJEN, Pam VK4PTO (State Rep,), Marliene VK4FMSW, Yvonne VK4FLUV and Marie-Ann VK4DJZ.

Catherine Freyne and the ABC

This lass, mentioned by Dot in her report, contacted ALARA in search of information about Florence McKenzie. We were very happy to supply her with a whole lot of information we have gathered over the years because we are very proud of this lady, the first YL operator in Australia.

Catherine wanted the material for a program on people of historical interest. Unfortunately by the time you read this the program will have been presented (March 16th at 2 pm on Radio National). If you go the ABC site you may be able to download the podcast of the program which I believe will be available for a few weeks after the broadcast.

ALARA will keep a copy of the broadcast in our History collections. It could be that it will be available to be listened to at the ALARAMEET in Ulverstone.

I also hope some of you heard it at the time, of course.

Bookshop news

Chris Flak VK2QV

Get into homebrew

The bookshop has been expanding its range over the last few months. We now have stocks of the latest RSGB Radio Communications Handbook, as well as the ARRL Handbook.

Some of the newer items include "Hands on Radio Experiments" which would ideally suit anyone who wants to learn how radios actually work. The book contains 61 practical experiments and represents good value. So get your soldering iron hot and start experimenting!

Another new addition is the "VHF Digital Handbook" which covers diverse subjects such as Packet, APRS, D-Star, multimedia and more.

The latest edition of ARRL's QEX magazine is available, now at a reduced price.

We also have in stock a series of Antenna books and CD-ROMS authored by VK4KVK – the G5RV Handbook, Antennas for Restricted Spaces and the Antenna Gain Handbook.

So please visit our website http://www.wia.org.au/ and look for the bookshop in the member's area. You do not have to be a member to buy books from us! Of course member's prices are lower so if you're not a member of the WIA, why not join up today!

73 Chris VK2QV

ALARA *continued*

A Luncheon in VK4

Pam VK4PTO, the VK4 State Rep, invited ALARA members, YLs and their families to attend the ALARA luncheon on the Gold Coast, recently.

It was a great success with approximately 40 present. A very relaxed and happy day was enjoyed by all.

It was a good opportunity to introduce Marie-Ann VK4DJF from Brisbane to the group.

She joined ALARA last October. Sheralyn VK2LUV from Tweed Heads joined on the day. Both Marie-Ann and Sheralyn have been amateurs for many years.

Some interesting special event stations to listen out for

In May each year the Society for the Preservation of Ancient Buildings have an Open Day at their wind and water mills. This is held on the second weekend in May.

Several years ago amateurs were asked if they could run a station at some of the mills on the day. Jasmine G4KFP accepted the offer on behalf of her local club (Denby Dale) and has been involved ever since. Last year there were 132 stations operating including one in Holland and another in South Africa.

One year there was a station at a mill that had been involved in the "Titanic" sinking because the resident miller at the time could read Morse and heard the distress call (Unfortunately the authorities did not take his report seriously – after all the boat was unsinkable?).

Radio stations will again be operating from a number of mills this year and QSL cards will be sent out for logs submitted.

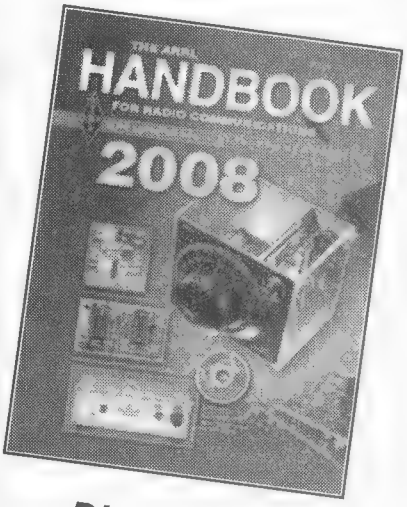
Details of where to send for QSL cards etc will be available when you contact the stations

In June, over two weekends, June 14-15th and 21-22nd, there will be a number of stations operating in the UK and possibly elsewhere round the world through Museums of the Air.

This second item was in the RSGB news for the first week in March. More information can be obtained by contacting the RSGB.

ar

Amateur Radio Bookshop



Discounts for members

Download our catalogue at

http://www.wia.org.au

Amateur Radio Bookshop
PO BOX 3084
EAST BLAXLAND
NSW 2774
Office: WIA National Office
Tel 03 9528-5962
Fax 03 9523-8191
bookshop@wia.org.au

ARRL – RSGB publications
books
magazines
CDROMs - DVDs

AMSAT

Bill Magnussen VK3JT

New arrangements for the AMSAT monthly nets

With the aim of improving participation, accessibility and as a service to experienced operators, newcomers and potential participants, a new national net has been organised in which the AMSAT-VK group will be joined by the Ozsat group.

The new net will be known as the Australian National Satellite net. Paul VK2TXT from the Ozsat group has done a lot of work to make this possible and a well-attended full dress rehearsal last month proved it to be feasible. The net has been moved from the second Sunday to the second Tuesday of each month.

The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news.

It is hoped the new format will facilitate other aspects like making 'skeds' and for a general 'off-bird' chat. The week night net will be held at 8.30 pm Eastern time, ie. 09.30 Z or 10.30 Z depending on daylight saving. For the first time, in addition to our EchoLink conference, the net will also be available via RF on the following repeaters and links:

In New South Wales

VK2RMP Maddens Plains repeater on 146.850 MHz

VK2RIS Saddleback repeater on 146.975 MHz

VK2RBT Mt Boyne Repeater on 146.675 MHz

In Victoria

VK3JED Preston, Melbourne on 144.296 MHz SSB simplex

VK3JED Preston, Melbourne on 439.175 MHz FM simplex with a 91.5 Hz CTCSS tone

VK3RTL Laverton, Melbourne, 438.600 MHz FM, -5 MHz offset

In addition to RF, operators may join the net via EchoLink by connecting to either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9509. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email at vk2txt@gmail.com

The new week night net commenced on 11th March 2008. Listeners are also reminded of our HF net which is held on the second Sunday of each month. See www.amsat-vk.org or www.ozsatgroup.info for details.

Amateur satellite operations is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give amateurs national communications and handheld access into New Zealand at various times through the day and night.

Finally, the organisers wish to thank the Illawarra Amateur Radio Society for carrying our net on the Coastlink repeater network and Tony VK3JED for the use of his linking system. It is hoped that this move will usher in a means of helping newcomers and experienced satellite operators alike to enjoy the world of amateur radio satellite comms.

New Logging program released

Bert, VE2ZAZ released WorkedGrids, ham log grid square mapping software some weeks ago. It is freeware and it runs under Windows. The program displays a map showing the amateur radio grid squares contacted and logged in using third-party logging programs.

WorkedGrids uses colours to display information on a per-band basis. Up to four bands can be displayed concurrently on the map. The program reads plain-text (ASCII) log files generated by most logging programs. The software is directed towards the VHF and above operators who collect grid squares for contesting or award purposes. It is designed to supplement a logging program and it replaces the pen and paper technique for marking worked grid squares.

Please visit http://ve2zaz.net for more details. Your input is welcome!

AMSAT continues to re-distribute Keplerian elements

Ray Hoad recently announced that AMSAT's 2008-2009 request to re-distribute Keplerian elements from US Air Force Space Command (AFSPC) Space-Track web site has been approved. Our USSTRATCOM Form 1 request to re-distribute the Keps was approved as of February 21, 2008. Ray went on: "This means that AMSAT will continue to distribute the NASA verbose and the two line format Keplerian data for another year. Thanks to AFSPC for their help".

Recent call for European CubeSats on the Vega Maiden Flight

The European Space Agency (ESA) Education Office recently called for CubeSat Proposals to universities in ESA Member and Cooperating States to participate as an educational payload on the Maiden Flight of the Vega Launcher.

The ESA Education Office recognises the growing importance of CubeSat projects as a key tool in providing university students with a valuable hands-on practical education across all space engineering disciplines from end-to-end through the complete space project lifecycle.

The launch opportunity on the Vega Maiden Flight is offered free of charge

for up to six CubeSats, with an additional two backup CubeSats on stand-by. Proposals are solicited from interested universities with CubeSat projects of sufficient maturity level to be able to meet the Vega Maiden Flight schedule (current target launch date of December 2008).

Proposals will be evaluated by the ESA Selection Board and the selected CubeSats will be announced on the ESA Education web portal by 15 April 2008. Details can be found on-line at:

http://www.esa.int/esaED/SEMSJ8QR4CF_index_0.html

CubeSats offer amateur radio satellite users the opportunity to take part in some exciting science as well as the potential for communications.

OSCAR-11 copied but signal becomes intermittent

Telemetry buffs will be interested to hear that OSCAR-11 was heard from 22 January to 01 February and from 11 February to 15 February.

Signals have been very variable in strength sometimes very strong, sometimes undetectable, even at high elevations. Low signal strength was particularly noticeable at AOS and LOS, and also towards the end of the transmission periods. OSCAR-11 is expected to switch back on under control of its on-board timer around 07 March.

There should be a short period of transmissions before permanent eclipses start in mid March. After March it is unlikely that the satellite will support any sustained period of operation and will only transmit for a short time, possibly less than a single orbit, every 21 days.

Clive G3CWV acknowledges the help of telemetry buffs Peter ZL3TC, Chris M0DQO, Tobias DG3LV, Edward BX1AD, Mark KU7Z, Gene WA4UKX, SWL Mark in CM87, Ron G4PGY, Julian WB9YIG and John KB2HSH for their reports. OSCAR-11 beacon frequency is 145.826 MHz, AFSK FM ASCII Telemetry. See http://www.users.zetnet.co.uk/clivew/ for additional information.

ar

AMSAT-UK

AMSAT Groups Support ZEL Funding

Earlier this year the Directors of AMSAT-DL were informed by the University of Marburg in Germany that it had been decided that funding for the ZEL by the University would cease at the end of 2007. The Directors approached AMSAT-NA and AMSAT-UK for financial assistance in keeping the ZEL open for another year. The sum of 25,000 Euros was requested.

At recent meetings of the AMSAT-NA Board and of the AMSAT-UK Committee, it was agreed that both would contribute to the donation. Given the relative sizes of the two donating AMSAT groups it was agreed that AMSAT-NA would donate 75% of the money required, and that AMSAT-UK would donate 25%.

The ZEL (Zentrales Entwicklungslabor fur electronic, roughly translated as the Central Development Laboratory for Electronics) has been the facility which, over the last 40 years, has been at the centre of much amateur satellite development activity by members of the University, members of AMSAT-DL, as well as other members of AMSAT from outside Germany. The most famous satellite to be produced there was OSCAR-13 which gave the Amateur Radio Community many years of excellent service.

Currently under construction is Phase 3E, a satellite similar in size and shape to OSCAR-13, but with many advanced features. It will carry a 70 cm to 2 metre band transponder, as well as transponders on other bands. Importantly it will carry its own rocket motor which will boost its orbit into a highly elliptical one, which will give world wide coverage, allowing ordinary radio amateurs great DX possibilities through the transponders. Radio Amateurs have not had such a satellite since the demise of AO-40 in March 2004.

The P3E satellite is still under construction in the ZEL, and its completion is anticipated for sometime in 2008. It is noteworthy that some of the personnel employed by the University to work in the ZEL have undertaken to continue working on P3E as volunteers.

Pictures of the ZEL can be seen at http://www.uk.amsat.org/gallery2/main.php?g2_itemId=32

AMSAT-UK publish a quarterly newsletter full of Amateur Satellite information.

Join now online at https://secure.amsat.org.uk/subscription/

For further details contact the secretary Jim Heck G3WGM

Tel: +44 (0)1258 453959

Email: g3wgm@amsat.org

Website: http://www.uk.amsat.org/

ar

Photo shows representatives of AMSAT-NA, AMSAT-DL and AMSAT-UK at the ZEL with the P3E satellite.
From left to right are: Rick Hambly W2GPS, President AMSAT-NA, Peter Guelzow DB2OS, President AMSAT-DL, and Jim Heck G3WGM Secretary AMSAT-UK

The end of an era

Len Ricardo JP VK1ALR

The Canberra Deep Space Communication Complex located at Tidbinbilla have been supporting a spacecraft know as IMP-8 for many years. Unfortunately the spacecraft failed recently and we now have a rather large array detail below which may be available – see details below.

Spacecraft IMP-J

NSSDC ID: 1973-078A

Alternate Names

- IMP 8
- Explorer 50
- 06893

Facts in Brief

Launch Date: 1973-10-26

Launch Vehicle: Delta

Launch Site: Cape Canaveral, United States

Mass: 371.0 kg

Nominal Power: 150 W

Description

IMP 8 (Explorer 50), the last satellite of the IMP series, was a drum-shaped spacecraft, 135.6 cm across and 157.4 cm high, instrumented for interplanetary and magnetotail studies of cosmic rays, energetic solar particles, plasma, and electric and magnetic fields. Its initial orbit was more elliptical than intended, with apogee and perigee distances of about 45 and 25 earth radii. Its eccentricity decreased after launch. Its orbital inclination varied between 0 deg and about 55 deg with a periodicity of several years. The spacecraft spin axis was normal to the ecliptic plane, and the spin rate was 23 rpm. The data telemetry rate was 1600 bps. The spacecraft was in the solar wind for 7 to 8 days of every 12.5 day orbit. Telemetry coverage was 90% in the early years, but only 60-70% through most of the 1980s and early 1990s. Coverage returned to the 90% range in the mid to late 1990s. The objectives of the extended IMP-8 operations were to provide solar wind parameters as input for magnetospheric studies and as a 1-AU baseline for deep space studies, and to continue solar cycle variation studies with a single set of well-calibrated and understood instruments. In October, 2001, IMP 8 was terminated as an independent mission. Telemetry acquisition resumed after about three months at Canberra only (30-50% coverage), as an adjunct to the Voyager and Ulysses missions. As of August 2005, IMP 8 continued in this mode. In early 2007, the transmitter on the spacecraft suffered a power loss. Efforts to reset or recover the missions were unsuccessful and finally, in October 2007, commands were up-linked to the spacecraft to turn it off.

Funding Agency

NASA - Office of Space Science Applications (United States)

The Antenna

The array that was used at Canberra is being considered for removal. Two options are being considered, first offer it to the amateur community on a tender basis or the second option is to relocate it and continue to use it in a practical space science observations mode.

The antenna consists of an 8 Yagi array of VHF antennas with a nominal centre frequency of 138 MHz.

Gain is approximately 25 dBi.

3 dB beamwidth is approximately 16 degrees.

It was manufactured by M^2 Antennas.

The array has polarity diversity and is approximately 12 m wide and 4 m high.

It comes complete with tower and is steerable in Azimuth and Elevation.

Readers with a serious interest in acquiring the array can contact the Editor in the first instance.

Len Ricardo JP VK1ALR is Operations Manager and Deputy Site Manager, Canberra Deep Space Communication Complex, Raytheon Australia

ar

Plan ahead

This month:

Harry Angel Memorial Sprint

Saturday 26th April, 2008

****

QRP Hours Contest

Saturday, 12th April, 2008

Phil Smeaton VK4BAA

Contest Calendar for April 2008 – June 2008

April	5/6	SP DX Contest	CW/SSB
	5/6	EA WW RTTY Contest	RTTY
	12/13	Japan International DX Contest	CW
	12/13	Yuri Gagarin International Contest	CW
	19	Holy Land DX Contest	CW/SSB
	19	TARA Skirmish Digital Prefix Contest	PSK
	20	YU DX Contest	CW/SSB
	26	**Harry Angel Sprint**	**CW/SSB**
	26/27	Helvetia Contest	CW/SSB
	26/27	SP DX RTTY Contest	RTTY
May	10/11	CQ-M International DX Contest	CW/SSB
	10	**VK/Trans-Tasman 80 metres Phone Contest**	**SSB**
	24/25	CQ WW WPX Contest	CW
	24	**VK/Trans-Tasman 80 m CW Contest**	**CW**
June	7	QRP Sprint	CW
	7/8	IARU Region 1 Field Day	CW
	14/15	**ANARTS WW RTTY**	**Digital**
	14	Asia/Pacific Sprint	SSB
	21/22	All Asia DX Contest	CW
	28/29	King of Spain Contest	SSB
	28/29	Marconi Memorial Contest	CW
	28/29	ARRL Field Day	All

Welcome to this month's Contest Column.

Did you support the VK Team in Beru?

As I hammer away at the PC typing this column (and hoping that the PC does not crash again!), Beru is taking place on the HF bands. With my antenna on the floor, I was unable to help them along this year – but next year will be different!

Steve VK6VZ reports that Les VK4BUI had to make a last minute withdrawal from the VK team, owing to high winds in his area which meant he had to take his main antenna down, so Captain Steve played a substitute entry with Karl VK2KM or Rob VK6HG. I am not sure if the adjudicator will allow this, but both Karl and Rob put in big efforts, so hopefully one of their scores will be allowed.

When the high winds died down, Les immediately got the antenna back up and got on the bands. A good display of good Aussie spirit!

The conditions seemed pretty average, but there were a few surprises. Battle stories of QRN from around the country were reported, making 80 m painful and relatively unproductive in certain locations – but at least the Woodpecker stayed in his nest! 40 m proved to be the band of choice, providing good DX for those in the right spots and rewarding stations that had put some additional effort into erecting additional antennae for the contest – mainly directed at the UK and Africa.

The other big surprise was 10 m opening for a couple of hours after 0600 Z – few European and Far Eastern stations ended up in the log, but the opening did not extend into the UK. 20 m seemed to continue its poor showing of recent times with limited DX appearing for prolonged periods.

Phil G4OBK was operating the VK2MB Club station during a holiday visit to VK. Phil got to work many of his UK contest chums, with most of them unaware that it was Phil using the VK2MB callsign.

Phil encountered a few problems during the contest – RFI issues notwithstanding – Phil's biggest problem was locking himself out of the station at 1500 Z local time after a brief session of sleep in his car! When he returned from the break, the lock stuck on the shack door and then whilst trying to free it the key broke off inside the secure lock! Phil's mobile phone was locked inside, but he managed to find two guys outside drinking beer, part of a fire crew, and they helped Phil out of his predicament.

The true contesting spirit is obviously alive and well and VK came to the rescue and made the contest bearable for at least one Pom….

2007 IARU HF World Championship Results

Congratulations to the following VK stations appearing in the results listing for the contest.

VK2GR 36,051
VK3KE 14,801
VK6DU 84,623

VK5MAV 53,354
VK2CCC 37,884
VK4TT 36,162
VK2AEA 242,352

2007 CQWW WPX Results

Congratulations are also due to the following VK stations appearing in the results listing for the contest, but a special mention for VK4BUI showing his true colours when the wind doesn't blow, as continental leader for Oceania on 20 m – well done Les!

VK2AEA 1,539,297
VK4BUI 181,940
VK2GR 88,655
VK4TT 45,270
VK4EJ 37,290
VK8AV 153,102

2007 Islands On The Air Results

A bumper month for contest results this time, with yet more VKs flying the flag. Raj VK4FRAJ, son of Eddie VK4AN, participated in this one, achieving a very creditable result – nice one Raj!

VK4FRAJ 5,778
VK4BUI 83,214
VK6DXI 113,904
VK5MAV 16,422
VK2CCC 13,464
VK4TT 7,980
VK2GR 4,704
VK8AV 3,555

Contesting – The University Course

Generally not found at your local TAFE, contesting is a hot topic at this year's Dayton Hamvention. For those fortunate enough to have wrangled a business trip to coincide with the show, or if you have sufficient private funds, the Dayton Hamvention in Ohio USA has got to be one of the largest (if not the largest) regular gathering of radio amateurs on the planet. Again this year, the Con Test University (CTU) is being run and promises to have something for everyone to learn – whether seasoned contester or newcomer. Operating from the Crowne Plaza Hotel, the CTU Professors consist of some of the finest operators and station builders to be found. The curriculum consists of subjects ranging from antenna arrangements for DX contesting to RTTY to information for those taking their first tentative steps into the contesting fraternity.

The website is worth a visit from time to time at www.contestuniversity.com to catch up on what is going on and to get a feel for the contesting related activities and gatherings taking place. I was fortunate to pay the show a visit in 1999 and found it fascinating and somewhat bewildering at times. The flea market is astonishing, covering many acres of land and packed to the gunnels with goodies. They have even provided a shipping service to get that new rig onto your doorstep for when you arrive back in VK. It is a very well organised event but you have got to book accommodation and flights well in advance. Renting a car is good too, as some of the local taxi drivers (and I comment here from experience) tend to be unable to resist the chance to put their kids through college on the proceeds of the elevated takings from the unwary.

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via vk4baa@wia.org.au. See you on the bands.

73 de VK4BAA Phil Smeaton

This is the year to serve your community by joining

WICEN

Wireless Institute Central Emergency Network

Local contact details in your 2008 WIA Callbook

QRP Hours Contest

from Ian Godsil VK3JS
Contest Manager

Saturday, 12th April, 2008

1000 – 1059 UTC CW/RTTY/ PSK31

1100 - 1159 UTC SSB

Sponsored by the CW Operators' QRP Club, the AIM of this contest is to make as many contacts as possible within a one-hour period using your choice of mode. Whilst it is hoped that the event will be strongly supported by QRP Club Members, it is open to all licensed amateurs.

Output Power: Preferably 5 watts but not more than 10 watts of carrier power, so as to stress the QRP nature of the event.

Modes: First Hour - CW (including RTTY and PSK31) 2000 hrs Eastern Std. Time

Second Hour - SSB 2100 hrs Eastern Std. Time

Frequencies: CW/PSK31/RTTY 3.500-3.535 MHz SSB 3.550-3.630 MHz

Exchange a three-digit serial number starting at 001 and incrementing by one for each new contact.

Score one point per contact.

Logs must show the name, address and callsign of the operator and the number of points claimed.

Send Logs by mail to: Ian Godsil VK3JS, 121 Railway Parade, Seaford, 3198, or by email to: Ian_G@mail2ian.com

Please consider using email and sending the log immediately after the event. Otherwise, logs should be received by Friday, 18th April, 2008.

Certificates will be awarded to the highest scorers in each Mode in each State.

Note: Email is the preferred method of sending the log, but all entrants must include their postal address (you cannot know if you will be a section winner!).

Harry Angel Memorial Sprint

from Ian Godsil VK3JS
Contest Manager

1000 Z – 1146 Z Saturday 26th April, 2008

This year marks the 10th Anniversary of an annual Contest to remember VK's oldest licensed operator, Harry Angel. Please note the time length of the Contest - 106 minutes, Harry's age when he died in 1998. It is open to all HF operators.

Object is to make as many contacts as possible onthe 80 m band, using modes CW and SSB.

Categories: Single Operator; Multi-Operator.

Sections: CW, Phone, Mixed and SWL (please choose ONE ONLY).

Frequencies: CW: 3500 - 3535 kHz, Phone: 3550 - 3640 kHz.

Exchange RS(T) and serial number starting at 001.

Score two points per CW QSO and one point per Phone QSO. Stations may be worked once only per mode. Logs must show time UTC, callsign worked (both callsigns for SWLs), mode, RS(T), serial numbers sent and received for each QSO.

Sending Logs: Email is the preferred method to vk3js@inboxnow.com (Please note that even for email logs, the entrant's name, callsign and postal address are required, as per the Summary Sheet.)

Send Written Logs to Harry Angel Sprint, 121 Railway Parade, Seaford 3198, by Friday, 2nd May, 2008.

Send summary sheet showing name and date of Contest, name, address and callsign of entrant, category entered, points claimed and a declaration that the rules and spirit of the Contest were observed.

Notes:

1. Please submit your logs as soon as possible after the Contest and do not forget to include your postal address (you cannot know if you may be a section winner!!)
2. The VKCL logging program covers this contest. This way everything can be kept electronic.
3. Please make this a special effort to commemorate this 10th Anniversary.

Ross Hull Memorial VHF-UHF Contest 2007 – 2008: RESULTS

John Martin VK3KM
Contest manager

This year I offer congratulations to Andrew Davis VK1DA, who has taken top position in the VHF-UHF section of the contest. Congratulations also to Rex Moncur VK7MO, who again wins the digital modes section. No logs were received this year for the microwave section.

The last summer season has been another very disappointing one for the Ross Hull Contest. For many years – decades in fact – the contest used to generate a high level of activity. But this began to decline in the mid 1990s and the downwards slide has continued since then, in spite of increasing interest in VHF-UHF DX activity.

There seem to be several reasons for the decline. One is possibly the work involved in estimating the distances worked. It is only necessary to make a estimate to the nearest 100 km, but this does complicate the process of log-keeping. It may be better to replace this system with scoring based on grid squares.

Another problem is the duration of the contest. But there is a good reason for it. A longer contest period makes it more likely there will be some good openings during the contest period. And it also allows everyone to fit their contest activity around other summer activities. It is not necessary to spend the entire contest period in the shack – just work what you can when you can.

A scoring system based on locator squares may also help here. If a locator square is worth say ten times as much as a contact, entrants will be able to concentrate mainly on bagging extra locators, rather than feeling that they have to fill their logs by working anything that moves.

I will publish a draft set of new rules a little later in the year, and in the meantime I would appreciate any comments. The email address for any suggestions is vhf-contests@wia.org.au.

Ross Hull Contest 2007 – 2008

Call	Name	50	144	432	1296	TOTAL
Section A: VHF-UHF (6m - 23cm)						
VK1DA	Andrew Davis	24	1212	475	168	**1879**
VK7MO	Rex Moncur	-	1356	-	-	**1356**
VK2TG	Robert Demkiw	31	666	365	-	**1062**
VK6ADI	Barrie Burns	912	18	-	-	**930**
VK2AH	Brian Farrar	267	516	70	-	**853**
VK2ARA	Ted Thrift	389	297	85	-	**771**
VK3HV	George Francis	4	21	20	-	**45**
Section B: Microwaves (23cm and above)						
No logs received.						
Section C: Digital modes, All Bands						
VK7MO	Rex Moncur	-	1314	-	12896	**14210**
VK1WJ	Waldis Jirgens	-	300	-	-	**300**

Ross Hull Contest – List of Winners 1950 - 2008

1950 - 1951	VK5QR	R. Galle
1951 - 1952	VK5BC	H. Lloyd
1952 - 1953	VK4KK	A. K. Bradford
1953 - 1954	VK6BO	R. J. Everingham
1954 - 1955	VK4NG	R. Greenwood
1955 - 1956	VK3GM	G. McCullough
1956 - 1957	VK3ALZ	I. F. Berwick
1957 - 1958	VK3ALZ	I. F. Berwick
1958 - 1959	VK3ALZ	I. F. Berwick
1959 - 1960	VK4ZAX	D. R. Horgan
1960 - 1961	VK3ARZ	W. Roper

1961 - 1962	VK5ZDR	M. J. McMahon
1962 - 1963	VK4ZAX	D. R. Horgan
1963 - 1964	VK5ZDR	M. J. McMahon
1964 - 1965	VK3ZER	R. W. Wilkinson
1965 - 1966	VK3ZDM	J. R. Beames
1966 - 1967	VK5HP	J. H. Lehmann
1967 - 1968	VK3ZER	R. W. Wilkinson
1968 - 1969	VK5ZKR	C. M. Hutchesson
1969 - 1970	VK3ZER	R. W. Wilkinson
1970 - 1971	VK4ZFB	E. F. Blanch
1971 - 1972	VK5SU	J. W. K. Adams
1972 - 1973	VK5SU	J. W. K. Adams
1973 - 1974	VK5SU	J. W. K. Adams
1974 - 1975	VK5SU	J. W. K. Adams
1975 - 1976	VK5SU	J. W. K. Adams
1976 - 1977	VK4DO	H. L. Hobler
1977 - 1978	VK3OT	S. R. Gregory
1978 - 1979	VK4DO	H. L. Hobler
1979 - 1980	VK3ATN	T. R. Naughton
1980 - 1981	VK6KZ	W. J. Howse
1981 - 1982	VK6KZ	W. J. Howse
1982 - 1983	VK6KZ	W. J. Howse
1983 - 1984	VK6KZ	W. J. Howse
1984 - 1985	VK3ZBJ	G. L. C. Jenkins
1985 - 1986	VK3ZBJ	G. L. C. Jenkins
1986 - 1987	VK3ZBJ	G. L. C. Jenkins
1987 - 1988	VK5NC	T. D. Niven
1988 - 1989	VK5NC	T. D. Niven
1989 - 1990	VK3XRS	R. K. W. Steedman
1990 - 1991	VK3XRS	R. K. W. Steedman
1991 - 1992	VK3XRS	R. K. W. Steedman
1992 - 1993	VK3XRS	R. K. W. Steedman
1993 - 1994	VK3XRS	R. K. W. Steedman
1994 - 1995	VK3XRS	R. K. W. Steedman
1995 - 1996	VK2FZ/4	A. Pollock
1996 - 1997	VK2FZ/4	A. Pollock
1997 - 1998	VK2FZ/4	A. Pollock
1998 - 1999	VK3XPD	A. P. Devlin
1999 - 2000	VK3EK	R. G. Ashlin
2000 - 2001	VK4TZL	G. R. McNeil
2001 - 2002	VK4TZL	G. R. McNeil
2002 - 2003	VK3EK	R. G. Ashlin
2003 - 2004	VK3EK	R. G. Ashlin
2004 - 2005	VK3UH	L. Mostert
2005 - 2006	VK4TZL	G. R. McNeil
2006 - 2007	VK3KAI	P. L. Freeman
2007 – 2008	VK1DA	A. Davis

Summer VHF-UHF Field Day 2008: RESULTS

John Martin VK3KM
Contest manager

The Summer Field Day went well. Propagation was better than usual, and there was a particularly good sporadic E opening on 6 and 2 metres that gave both portable and home stations large numbers of contacts and a bigger than usual list of grid squares.

The winners of the five sections were: Doug Friend VK4OE, Ralph Edgar VK3WRE, the Lara group VK3UHF, Alan VK3XPD, and Matt VK2DAG. Congratulations to all.

It was interesting to note that with one exception, the top scorers on each band were not the top scorers overall in their sections. It is good to draw attention to the very high scores that some entrants were able to achieve. These top scorers were: David VK4ZDP on 6 metres, Andrew VK1DA and the EMDRC VK3ER on 2 metres, Andrew VK1DA again on 70 cm, and the LUMEG group VK3UHF on 1296.

The next VHF-UHF Field Day will be the spring event next November. The dates will be confirmed a little later in the year. Please check the VHF-UHF Field Day page on the WIA web site for further details.

Call	Name	Location	50	144	432	1296	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	TOTAL
Section A: Single Operator, 24 Hours												
VK4OE	Doug Friend	QG63, QG62	75	582	505	640	470	-	-	460	-	**2732**
VK1DA	Andrew Davis	QF44	79	930	890	552	-	-	-	-	-	**2451**
VK3BJM	Barry Miller	QF15	156	639	535	272	-	-	-	-	-	**1602**
VK3BBB	Brian Young	QF31	147	615	435	168	-	-	-	-	-	**1365**
VK2FRBS	Russell Simon	QF57	-	492	525	-	-	-	-	-	-	**1017**
VK5XE	Ian Northeast	PF96	140	231	315	-	-	-	-	-	-	**686**
VK2RS	Don Haberecht	QF33	71	330	120	-	-	-	-	-	-	**521**
VK5AR	Alan Raftery	PF94	30	195	180	96	-	-	-	-	-	**501**
VK1AI	Greg Parkhurst	QF44	165	228	-	-	-	-	-	-	-	**393**
VK5FAAF	Robert Allen	PF96	-	178	212	-	-	-	-	-	-	**390**
VK2ZSZ	Steve Zoneff	QF44	-	66	-	-	-	-	-	-	-	**66**
Section B: Single Operator, 8 Hours												
VK3WRE	Ralph Edgar	QF31	-	366	450	536	470	340	220	360	-	**2742**
VK3HY	Gavin Brain	QF32	172	474	455	408	-	-	-	-	-	**1509**

VK5OQ	Keith Gooley	PF95	65	324	240	168	-	-	-	-	-	**797**
VK5AR	Alan Raftery	PF94	27	171	150	96	-	-	-	-	-	**444**
VK3KAN	Rik Head	QF22	23	108	165	-	-	-	-	-	-	**296**
VK3DCQ	Trevor Haines	QF22	-	153	120	-	-	-	-	-	-	**273**
VK2YJS	Julian Sortland	QF56	66	132	-	-	-	-	-	-	-	**198**
VK4EV	Ron Everingham	QG62	30	60	-	-	-	-	-	-	-	**90**

Section C: Multi Operator, 24 Hours

VK3UHF	LUMEG (1)	QF21	207	666	805	960	960	590	360	840	220	**5608**
VK3ER	EMDRC (2)	QF22	239	930	865	792	-	-	-	-	-	**2826**
VK4WAT	TREC (3)	QH22	474	630	420	360	-	-	-	260	-	**2144**
VK2MA	HADARC (4)	QF46	268	585	605	584	-	-	-	-	-	**2060**
VK5ARC	SCARC (5)	PF94	223	798	530	168	-	-	-	-	-	**1716**

Section D: Multi Operator, 8 Hours

VK3XPD	(6)	QF21, 22	-	504	510	600	460	450	-	460	220	**3204**
VK3FRC	FAMPARC (7)	QF21	161	552	515	304	-	-	-	-	-	**1532**
VK2MA	HADARC (4)	QF46	170	384	420	464	-	-	-	-	-	**1438**
VK3BJA	GGREC (8)	QF21	-	325	335	344	-	-	-	-	-	**994**
VK1WJ	(9)	QF44	120	252	250	-	-	-	-	-	-	**622**

Section E: Home Station, 24 Hours

VK2DAG	Matt Hetherington	QF56	206	858	640	504	210	-	-	210	-	**2628**
VK3HZ	David Smith	QF22	-	609	715	720	-	-	-	-	-	**2044**
VK3BDL	Michael Goode	QF22	177	657	630	528	-	-	-	-	-	**1992**
VK4BEG	Russell Norton	QH22	477	594	285	216	-	-	-	-	-	**1572**
VK4DMC	Dale McCarthy	QH22	400	396	240	216	-	-	-	-	-	**1252**
VK4ZDP	David Purkis	QH32	530	420	255	-	-	-	-	-	-	**1205**
VK4AR	Gary Ryan	QG62	-	501	160	-	320	-	-	210	-	**1191**
VK3TPR	Peter Roberts	QF22	91	456	500	-	-	-	-	-	-	**1047**
VK4ADC	Doug Hunter	QG62	373	564	-	-	-	-	-	-	-	**937**
VK3YXC	Ken Church	QF22	35	177	320	368	-	-	-	-	-	**900**
VK2EI	Neil Sandford	QF68	63	396	430	-	-	-	-	-	-	**889**
VK4AQ	Ross Anderson	QH32	374	252	255	-	-	-	-	-	-	**881**
VK2TG	Robert Demkiw	QF55	35	345	440	-	-	-	-	-	-	**820**
VK5MCB	Michael Baldock	PF86	43	492	270	-	-	-	-	-	-	**805**
VK5FIVE	Rick Cybul	PF94	-	393	270	-	-	-	-	-	-	**663**
VK3ACA	John Adcock	QF22	-	381	235	-	-	-	-	-	-	**616**
VK2EAH	Andy Hood	QF56	-	282	330	-	-	-	-	-	-	**612**
VK3HV	George Francis	QF31	50	159	210	-	-	-	-	-	-	**419**
VK2ZQX	John Watson	QF58	146	270	-	-	-	-	-	-	-	**416**
VK4AAT	Terry Stewart	QG62	187	-	-	-	-	-	-	-	-	**187**
VK3YFL	Bryon Dunkley-Smith		Check log									

(1) Lara UHF-Microwave Experimenters' Group: Chas Gnaccarini VK3PY, David Learmonth VK3QM, Charlie Kahwagi VK3NX.

(2) Eastern and Mountain Duistrict Radio Club: Steve VK3AMY, Jim VK3AMN, Mike VK3AVV, David VK3DLR, John VK3PZ, Peter VK3QI, Damien VK3SOX, Jonas VK3VF, Max VK3WT, Jack VK3WWW.

(3) Tablelands Radio & Electronics Club: John Roberts VK4TL, Trevor Gregory VK4ZFC, Dave West VK4ADW.

(4) Hornsby & District Amateur Radio Club: Mick VK2HMS, Dave VK2FDIW, Rose VK2ANG, Steve VK2BCD, Rod VK2DAY, Compton VK2HRX, Taylor VK2FTEC, Rod VK2FDRW, Josh VK2ZJG, Mal VK2STG, Paul VK2FMAM, Peter VK2TTP, Dave VK2HSS, Pete VK2TPK, Bob VK2BMU.

(5) South Coast Amateur Radio Club: Barry Bates VK5KBJ, Andrew Willis VK5LA, Stef Daniels VK5HSX, Peter Patterson VK5FPGP.

(6) Alan Devlin VK3XPD, Michael Coleman VK3AAK.

(7) Frankston & Mornington Peninsula ARC: Roy VK3GB, Gerard VK3GER, Andrew VK3AEJ, Stjepan VK3TSN.

(8) Gippsland Gate Radio & Electronics Club: Phil Pavey VK3YB, Kerri-May Pavey VK3FDSD, Bruno Tonizzo VK3BFT, Doug Rowe VK3KMN, Helmut Inhoven VK3DHI, Ivan Blezard VK3ARV, Ian Jackson VK3BUF, Ross Jackson VK3ZAP, Megan Woods.

(9) VK1YBQ: Hauke Wunderlich, VK1PAR: Al Long, VK1WJ: Waldis Jirgens.

ar

VHF/UHF – an expanding world

David Smith VK3HZ
vk3hz@wia.org.au

Weak Signal

David Smith VK3HZ

Despite a number of days where very promising propagation maps were produced by the Hepburn Tropo Ducting Forecast web site, there has not been a great deal of long-distance propagation to report for the month. No VK-ZL contacts have been reported, although the forecast for this weekend for the John Moyle Field Day is looking very promising. In the other direction – across the Bight to VK6 – there have been some reports of the beacons in Esperance and near Albany being heard in Adelaide, but no contacts noted.

There has been more localised enhancement thanks to some slow-moving High-Pressure cells. The pattern, repeated a number of times through the month, starts with enhancement from Adelaide into Mt Gambier and Melbourne. As the High moves east, the Mt Gambier-Melbourne path can become quite intensely enhanced with 23 cm signals over S9. At that point, the keen microwavers at each end normally scurry to the tops of their respective mountains to make contacts on all bands up to 10 GHz, with 24 GHz proving a little more challenging due to water vapour in the air. The High then generally slides to the south between the mainland and Tasmania, producing good conditions between VK3, 5 and 7, before moving out off the east coast lifting the VK7 to coastal VK2 path.

On February 17th, Matt VK2DAG and Rex VK7MO used such conditions to good advantage as Matt reports:

I started to have a JT65 QSO with Rex VK7MO but he was 59+ so we went to SSB instead and were able to work each other on 2 m for an hour with 59+ signals with some rapid deep fades. So we decided to try 23 cm JT65c on 1296.100 and within 10 mins the QSO was in the bag! Rex's best was -14 and I had 100% decodes on him. My VK5EME Transverter seems to have some bad drift on Tx up to 100 Hz but on Rx it only drifted 10 Hz up over Rex's Tx periods. 1120 km on 23 cm – that has easily beaten my best to date of 302 km.

Colin VK5DK has also been having a busy time:

Recently, there has been some very good 144 MHz, 432 MHz and 1296 MHz propagation in the southern parts of VK.

On the evening of Monday March 10th, there were very good conditions between Brian VK5BC/P at Corny Point on the Yorke Peninsula and Mt Gambier – a distance of around 500 km - with 5x9 signals on 2 m and 5x9 + 20 dB on 70 cm. Brian did not take his IC910 with him as the 23 cm antenna was not quite ready for installation at the portable location, but I am sure signals would have been very good on 23 cm as well.

The same evening, conditions were good to the east from Mt Gambier with beacons on 2 m, 70 cm and 23 cm being received at this QTH from Geelong (VK3RGL) on 2 m and 70 cm, Ballarat's new 23 cm (VK3RMB) beacon under test at VK3ADE's QTH, the VK3RGI 2 m, 70 cm and 23 cm beacons from Gippsland & VK7RAE 2 m beacon from NW Tasmania. Stations worked from this QTH were VK3XPD and VK3ZYC in East Gippsland on 2 m, 70 cm and 23 cm.

On the morning of Wednesday March 12th, several stations were worked in the Adelaide and Melbourne directions as well as hearing the VK6REP 2 m beacon at S9 and VK6RST 70 cm beacon at S2, but no VK6 stations heard. Stations worked from this QTH were:

On 2 m - VK3ESE, VK3AUU, VK5AKM, VK5BJE, VK5KGP, VK5BC, VK5NY, VK3AXH, VK3TPR and VK3XPD; on 70 cm – VK3ESE, VK5AKM, VK5BC, VK5NY, VK3TPR and VK3XPD; and on 23cm – VK3ESE, VK5NY, VK5AKK and VK3XPD.

At this stage, no 13 cm contacts have been made into the Melbourne area, but I hope that with the increase in equipment building in the Ballarat and Melbourne area, this will happen in the near future.

VK-VHF Reflector

The VK-VHF email reflector has once again found a new home after the existing host could not continue to provide the service. Hugh VK2YYZ has generously offered the services of his server that is currently hosting a number of similar reflectors. Details of the new reflector may be found at:
https://ozlabs.org/mailman/listinfo/vk-vhf

Note the https prefix and that you may get a pop-up window about a security certificate – click OK to proceed.

Thanks to Gordon VK2DJG who has run and hosted the reflector for the past 8 years.

Beacons

Rod VK2SMC/TWR reports that the south-eastern NSW beacons are well on the way to full time operation again:

Starting on the JMFD weekend, the VK2 beacons will be running from this QTH. The frequencies are 144.414 MHz and 432.414 MHz with a tiny bit of drift. You will find them without too much trouble. The beacons are going into a permanent home on Emerald Hill prior to winter at a powered site. It has taken a while getting a tower organised and also underground power etc. We are a tiny group with very tiny amounts of reserves so you will understand why the beacons cannot be just thrown up.

Glen VK2CCW nearby in Cooma also has a temporary beacon in operation. Details are:

Freq: 144.5875 +/- 300 Hz.
Mode: FSK 300Hz –shift.
ID: "VK2CCW QF43NS COOMA SE NSW"
Power: 14 Watts into 6" quarterwave filter, 10 W into antenna.
Antenna: 13 elements HPOL AZ : NNE (Brisbane) from Cooma, negative horizon.
Hours of operation: Continuous, 24 H, battery backed, until at least 30 May.
Location: VK2CCW QTHR Cooma.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur VK7MO

Welcome to Ian VK1BG, Rob VK3XQ, and John VK7CEJ, who have all been trying out WSJT. After a number of tries Ian VK1BG was able to complete a JT65A contact with Rex VK7MO over what is an extremely difficult tropo-scatter path from Canberra to Hobart, with high mountains both ends blocking any tropo-ducting. On 17 February there was a good coastal duct from Newcastle down to Hobart and Matt VK2DAG was able to work Rex VK7MO on 23 cm on JT65C with signal levels of -22 and -14 dB.

With the increasing availability of GPS-locked 10 MHz references, some operators have been locking their rigs to GPS to improve frequency stability and accuracy and thus performance using JT65. These devices are called GPSDOs for Global Positioning System Disciplined Oscillators. Very good quality units such as the HP Z3801A and Z3815A, that can hold frequency on 1296 MHz to better than 1 Hz even after losing GPS lock for 24 hours are becoming surplus with the demise of CDMA telephone systems. Surplus units can be obtained for around 250 dollars. G3RUH, James Miller, has produced a simple low power unit that is more suitable for portable operation. This gives excellent performance while GPS locked but without the complication of a hold-over capability. As Telstra close their CDMA system it is likely that large numbers of high performance GPSDOs will become available.

A number of VK hams have been looking at ways to lock their rigs to these 10 MHz GPSDOs and find they can now report zero DF (Difference Frequency) and no drift on JT65. Peter VK3SO uses an IC-706 which requires a 30 MHz reference oscillator. Peter has found he can lock the 30 MHz oscillator by the simple process of injecting the 10 MHz into a few turns wound over the coil of the existing oscillator. Jim VK3II uses an FT-736 which requires a reference oscillator of 20.480 MHz. Jim has found that the HP Z3815A has an auxiliary output on 4.096 MHz which can be multiplied by 5 to give 20.480 MHz. Other rigs generally require odd frequencies that require one to use a PLL to lock to the 10 MHz of the GPSDO. David VK3HZ and Rex VK7MO have been designing and testing PLLs to lock the FT-847/817/857/897 which all require a 22.625 MHz reference; the TS-2000 which requires a 15.6 MHz reference; and the IC-910-H which requires a 30.2 MHz reference. At this stage the preferred approach is to use 74AC161 dividers and an XOR gate to produce the control voltage for the oscillator. It has been found that reasonably good phase noise can be produced with a relatively cheap VCXO, although a good quality VCXO can give the last fraction of a dB performance improvement.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

Brian Cleland VK5BC

After a couple of good openings in early February reported in last month's notes the band quietened down with only a few spasmodic openings which didn't reach any great intensity or longevity.

Interesting day on the 13th February where in VK5 the Band was open for several hours to VK2, 4, 7 and VK6 (Albany area). Conditions were quite intense with strong backscatter signals evident, Garry VK5ZK working Brian VK5BC on backscatter. VK7s also worked into VK4 and Wally VK6WG Albany worked several VK2s as well as VK5.

17th February saw John VK7CEJ in Launceston work Scott VK4CZ Brisbane and Phillip VK2FHN Sydney as well as Norm VK3DUT near Bairnsdale on Tropo with 5/9 signals over the 393 km path. Meanwhile ZL TV was being heard in VK5 but without any ZL contacts reported. Brian VK5BC managed brief contacts with John VK2BHO and Mike VK2BZE.

On 19th February, short openings when Brian VK5BC worked Henry VK2ZHE in Port Macquarie and Neville VK2YO worked Dale VK4SIX.

20th February saw some openings; in VK5 the VK2RHV beacon was audible for some hours with Brian VK5BC working Peter VK2ZTV. Northern Tasmania opened to northern VK2 and VK4 with John VK7CEJ working Mike VK2OT in Grafton. Ted VK2ARA worked Rod ZL3NW and Doug VK4DUG worked Garry VK2DJ mobile in Wollongong and VK3TPR.

Norm VK3DUT had the VK5RBV beacon at good strength late in the afternoon of 23rd February and worked Jim VK5ZSA near Mannum. Jim also worked Jack VK2XQ in Sydney.

On 27th February the band was open most of the morning in VK5 when the VK4RGG Gold Coast, VK4ABP Longreach and VK8RAS beacons were audible. Brian VK5BC worked Neville VK2YO and several VK4's from Brisbane to Cairns. Gary VK5DX also worked Wayne VK4WS.

The afternoon of the 29th February, the VK2RHV and VK2RSY beacons were good strength into VK5 with Jack VK2XQ and Kerry VK2BXT working Brian VK5BC. Myles VK6ZRY Perth also reported hearing the Dampier VK6RSX beacon.

Internationally many kept an ear out on 50.105.5 MHz for the VP6DX Ducie Island expedition but unfortunately no contacts eventuated but Dale VK4SIX did hear their beacon on 22nd February.

Please send any 6 m information to Brian VK5BC at bcleland@picknowl.com.au.

ar

DX – News & Views

John Bazley VK4OQ
PO Box 7665, Toowoomba Mail Centre, QLD 4352.
Email: john.bazley@bigpond.com

Well I guess if you needed Clipperton Island then you will have been successful! I think that at times we sit in our shack and forget all about the planning and the vast amount of effort and expense that has gone into making such a DXpedition possible. Yes I know one can do it on a far more modest budget but the aim of the Clipperton "boys" was to give a new or wanted country, IOTA or mode to as many amateurs as possible in a relatively short time. I have not singled Clipperton out for any particular reason, for there have been plenty of similar recent operations, this one happens to have JUST taken place, so is probably still very fresh in everyone's mind. Taking just one item – Antennas – the amount of aluminium and wire in the air was impressive!

TX5C Antenna Inventory:

1	160 m CW balloon vertical
1	160 m CW top loaded vertical
1	80 m CW 2 element phased verticals
1	75 m SSB 2 element phased verticals
1	75 m SSB dipole
1	40 m CW 4 Square phased array
1	40 m SSB 2 element yagi at 40' DON'T know about this one. SSB will have either two element vertical or dipole.
1	40, 30, 20, 17, 15, 12, 10 & 6 m CW 3 element SteppIR Yagi at 40'
1	20, 17, 15, 12, 10 & 6 m SSB 2 element SteppIR Yagi at 40'
1	40, 30, 20, 17, 15, 12, 10 & 6 m SSB SteppIR vertical
1	40, 30, 20, 17, 15, 12, 10 & 6 m CW SteppIR vertical
1	30 m CW 4 element parasitic vertical array
1	20 m SSB 2 element SVDA
1	20 m CW 2 element SVDA
1	17 m SSB 2 element SVDA
1	17 m CW 2 element SVDA
1	15 m SSB 2 element SVDA
1	15 m CW 2 element SVDA
1	12 m SSB 2 element SVDA
1	12 m CW 2 element SVDA
1	10 m SSB 2 element SVDA
1	10 m CW 2 element SVDA
1	6 m 4 element Yagi
2	Beverage antennas for 160 m
1	K9AY loop RX antenna
1	17-12 A3WS
1	10-15-20 A3S
1	80-6 Butternut Vertical

The Yasme Excellence Awards

On 18 January 2008 the Yasme Foundation (www.yasme.org) announced the winners of the first Yasme Excellence Awards, given for service and dedication to amateur radio as recognized by the Foundation's Directors. The prizes are in the form of a plaque and a monetary award.

- Joseph L. Arcure Jr. W3HNK: $2,000 for his long service to DXers as a QSL manager. Joe's efforts on behalf of DXers everywhere promote international goodwill by facilitating cultural exchanges between operators who may never meet in person, yet share a common bond of DX operation.
- Sheldon C. Shallon W6EL: $2,000 for his work with propagation prediction software. By making propagation more accessible, Shel has done much to advance the technical skills of HF operators in understanding the physical environment of radio.
- James Brooks 9V1YC: $2,000 for DXpedition organization and videography. James' professional videos make the skills and excitement of DX operating and expeditioning more accessible to hams who have not yet tried DXing and to non-hams alike.
- Jukka Salomaa OH2BUA and Antti Kantola OH5TB: $2,000 (shared) for conceiving, operating, and maintaining the DX Summit, the first widely-used Web-based spotting network portal. They created a tool that fundamentally changed the nature of HF operating, a true advancement of the radio art.

They are well deserved, for the recipients have contributed a lot to Amateur Radio over many years.

I wonder how many of the readers can remember Danny Weil VP2VB and the start of YASME?

So what have we got to look forward to in April and May?

GU: The Barry Amateur Radio Society (GW4BRS) will be active as GB0U from Guernsey (EU-114) on 19-25 April. Expect activity on all bands and modes.

P4: Garry Fisher K9WZB and his wife Sharon K7WZB will be active as **P40ZB** from Aruba (SA-036) on 16-24 April. They intend to operate CW, SSB and RTTY on 40, 20, 17, 15, 10 and 6 metres. QSL direct to K9WZB.

Peter HA3AUI is going back to Africa. He will be active in his spare time as either 6W2SC (from Senegal) or J5UAP (from Guinea-Bissau) until 15 April. QSL via HA3AUI, direct or via the bureau. Logs will be uploaded to LOTW. Peter plans to operate digital modes with some SSB. Bands in use will be 160-6 m from 6W and 30-10 m from J5. QSL via HA3AUI, direct or bureau.

MJ0MJH will be in Jersey's EU-013 and maybe EU-099, April 21-25, possibly beyond this time range, all bands and modes. QSL via M0MJH direct or bureau.

JX: Svein LA9JKA (JX9JKA) will be "very active" from Jan Mayen (EU-022) from 27 March through 8 October. He plans to operate SSB and digital modes on 160-6 metres. QSL via home call.

Bob Garrett K3UL is once again heading to Grand Cayman where he will be QRV as ZF2YL on CW and SSB from April 5 through April 12. This will be a vacation and Bob will have daily doses of "radio activity" when not in the sun, sand or with his YL. Look for him on all bands and when possible he'll be focusing on 80 and 160 metres, during

his evening hours. QSL direct only via K3UL.

F5KEE/p, F5KEE/m, M/F5KEE/p or M/F5KEE/m, one of these will be the callsign from the Scilly Islands, EU-011, for F5OGG, F6HER, F4EVR and F8ATS, May 15-18. On the 15th it will be between 2000-2230 Z and possibly not that entire period of time. They will be on 40 m with 50 watts, battery power, and a mobile vertical. That will be from Penzance and the Lizard lighthouse. May 16 they hope to get on in the evening. They will be on CW and SSB. QSL via the bureau or direct to F8ATS. Be sure to include an SAE and one valid new IRC or one U.S. dollar for Europe or one new IRC or two U.S. dollars for other parts of the world.

DXCC News

ARRL DXCC Manager Bill Moore NC1L reports that the 2007 E4/OM2DX DXpedition to Palestine, VK9WWI -- Willis Island and YI9PT –Iraq have been approved for DXCC.

The following is from the ARRL Web February 2008: Due to several factors, including greater activity from new and reactivated DXCC entities, the ARRL DXCC Desk has been experiencing QSL card processing delays. According to ARRL DXCC Manager Bill Moore NC1L, there are approximately 2300 applications currently on the list of received applications, resulting in a processing backlog of more than 12 weeks. "People usually have to wait 4-6 weeks from the time they send in their application to the time they receive their cards back," Moore said.

Even with the low sunspot numbers of the now defunct Solar Cycle 23, there has been an increase in DXCC activity.

Due to illness, Pete K3PD, QSL manager for 5N0NAS, 5Z4ES, 9Z4DI, BX2/NE3H, C95WH, EL2JH, FM5WE, OX3SA, T32Z, T88RZ, TA3DD, VP2MNI, VP5FEB, W3GOP, W3UU, ZL2MAT, Z21FO, Z21GC, Z21GX, Z22JE, ZS4U, ZS6CCY, & ZS9X, is retiring from QSL managing. Pete has selected Irv K3IRV to take over his QSL duties. Effective immediately K3IRV, will become the new QSL manager for 5N0NAS, 5Z4ES, 9Z4DI, BX2/NE3H, C95WH, EL2JH, FM5WE, OX3SA, T32Z, T88RZ, TA3DD, VP2MNI, VP5FEB, W3GOP, W3UU, ZL2MAT, Z21FO, Z21GC, Z21GX, Z22JE, ZS4U, ZS6CCY, & ZS9X. K3IRV has been and still is the QSL manager for stations OD5TE, JY4NE, OD5UT, ET3VSC, ZC6A, OD5/JY4NE, E44A, DU1/W3WAZ, DU1MGA, PY5EG, PY2OMS, ZW5B, PS2T, & PP5EG.

Happy DXing.

Special thanks to the authors of *The Daily DX* (W3UR), *425 DX News* (I1JQJ) and *QRZ.DX* for information appearing in this month's *DX News & Views*. Interested readers can obtain from W3UR a free two week trial of The Daily DX from www.dailydx.com/order.htm

ar

We are the WA agents for these famous brands

QUANSHENG 泉盛电子

VIBROPLEX

WiNRADiO

Vertex Standard AUSTRALIA

And a few words about the Quansheng

This is some of what Jason Reilly VK7ZJA had to say about our radios in AR in November

".. solid and rugged ...comfortable to hold...the audio qualities are superb! This is one of the nicest sounding handheld radios ...The receiver is also astonishingly sensitive, ...On transmit, the Quansheng has pleasant TX audio, and delivers 5 watts on high power, 1 watt on low. ..... the circuitry general finish is excellent...quite a few Quanshengs go into the hands of local amateurs, and generally speaking most are very happy with them...

For $100 (yes, Australian Dollars)...this radio represents absolutely phenomenal value.

.....The Quanshengs come highly recommended by me; I am sure you will be tickled by just how well these radios work for the money!"

We have the famous VIBROPLEX Morse keys

WA's new Yaesu Dealer

Geoff White (VK6NX) 08 9498 1157

116 Amethyst Cres, Mt Richon, WA 6112

Payment via Paypal, Cheque or Bank Transfer.

All details and a description of our other great products on

www.hamshack.com.au

email **worm_hole@optusnet.com.au**

Handhelds 2m or 70cm

LOCKED OUT FOR HAM BAND ONLY

144 TO 148 MHZ (VHF)(2M) OR 420 TO 450 MHZ (UHF)(70CM)

$99 delivered in AUS

We have soft covers for $17.00

SPECIFICATIONS:

SIMPLEX & DUPLEX

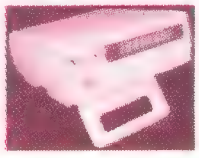
1) Voice Prompt on Keypad
2) CTCSS with 39 codes
3) 99 Storage channels
4) Auto scan
5) Large screen LCD
6) Back Lighting
7) VFO programmed (input freq. from keypad)
8) Hi & Lo Power select
9) Channel spacing: 5KHz, 10KHz, 12.5KHz, 25KHz
10) Keypad lock
11) Monitor function (input frequency)
12) Low-battery warning
13) Frequency Modulation
14) Auto power save
15) Output power: 4 - 5W
16) Large-capacity battery
17) Ear/microphone auto-charger connections

Extra Battery	(1100mah)	$12
Speaker Microphone		$12
Headset/Microphone		$8
SMA to BNC Converter		$5

$7 shipping charge on Items ordered separately

Victor Frequency Counter

$119 Delivered!!



- 8-digit LED display,
- High stability
- Power cord, test leads included

Owner's manual for a ham band

John Kirk VK4TJ

You probably wouldn't take a D9 Caterpillar for a spin without at least a cursory look at the instruction manual, would you? The destructive potential of a D9 dozer and a PTT switch in the wrong hands are roughly equal in my view; but how many of us take the time to familiarise ourselves with the band plans (Reference 1) before making that coveted first contact?

'You exaggerate', you say. Bear with me – the incidents below are actual examples observed on our bands. When we're done, I think you'll agree that a half hour spent with our WIA band plan would be profitable indeed. Let's start out with an open-and-shut one:

As a recent immigrant from the land of the long white cloud, you like to keep in touch with your mates across the Tasman. After your old club's longstanding net on 3725, you stick around to have a natter with a few old friends. What's wrong with this picture? We don't have access to 3725 kHz is what's wrong! Just because it is available to the Kiwis doesn't mean we have it too! Uh-oh – a quick perusal of the ACMA database (Reference 2) reveals that that frequency is assigned to both Telstra and the New South Wales State Emergency Service. Could have really stuck your foot in it had there been an emergency exercise in progress, couldn't you?

Example 2 is a bit more subtle, and involves a modicum of understanding how your rig actually works:

Ubangistan, the last DXCC entity you need for your Worked-All-Asteroids Award, has just been spotted on 80 metre SSB, working split. He announces that he is listening 3775 to 3780, targeting Pacific stations only. You beauty! You load up on 3778 and work him on your first call. What's wrong with this picture? You're on LOWER SIDEBAND, is what! 3778 may be your notional carrier frequency, but your voice products extend at least 3 kHz below you, out of our allocation and into that self-same SES and Telstra band mentioned in example one. Double slap on the wrist if you happen to be a Standard or Foundation licencee, because the 80-metre DX window is for Advanced licences only.

Example 3 is not illegal, merely immoral – guaranteed to make you about as popular as a proverbial release of intestinal wind in a bathysphere:

You are, very laudably, involved in a public service event involving both QRP and marginal antennas. Due to the distances to be covered and the time of day, 40 metres is about your only option. Weak signals dictate that you find a clear frequency to pass traffic on. Hmmm…7040 sounds clear – let's go for it. Congratulations! In one fell swoop, you have:

- Wiped out 30% of the tiny sliver of 40 metres we call the digital sub-band
- Probably curtailed all HF forwarding off this continent we call Australia
- Incurred the wrath of digital operators word-wide, who depend on the store-and-forward capabilities of our BBS's to move their own traffic.

Automated BBS's cannot defend themselves. They cannot move to avoid QRM, because their forwarding partners overseas depend on them being in the same spot – always. They must both put up and shut up, until your encroachment ceases, creating a backlog of traffic that may take days to unsnarl.

'But I never hear anything on frequency X…'

I hope to convince you with the next couple of examples that that is insufficient grounds for 'squatting' on apparently underused spectrum…

Example 4 is more of the same, on a grand scale:

The race for bargains at a hamfest clearly goes to the swift. Knowing this, you and your mates agree to split, scouring the boot sale area with each other's 'most wanted' lists. Liaison will be via hand-held on a quiet two metre simplex frequency. 145.9 MHz sounds clear, and it's only a thumb-click away from the rig's default boot-up frequency. What's wrong with this picture? Doh! 145.9 is in the satellite sub-band, and is the input of FO-29, a really great bird with intercontinental coverage. Congratulations – with one press of the PTT, you've managed to monopolise almost the entire passband of this SSB/CW- only bird, destroying its usefulness for thousands of users, and probably shortened its battery life at the same time. It's not like it can stop in at the 7-11 next pass for a new set of D-cells!

Is it really sensitive enough to detect the miniscule emanations from my hand-held? In a word, yes. Like all the examples given here, it really happened.

Example 5 is more of a newbie thing, though none of the parties involved were F calls:

The Darling Downs Radio Club operates what could almost be termed a 'super-repeater', with absolute front row seats on the edge of the Great Dividing Range. The repeater's footprint easily extends for 150 km in any given direction. For weeks, the repeater had been plagued with weak signals on its input. Although obviously amateur in origin, the transmissions were in a foreign language, with call signs seldom if ever given. Attempts to direction-find the source of the signals proved fruitless, as few club members had a QTH as good as the repeater! As it turned out, a family of related hams 100 km away had elected to run around their town with handhelds and marginal antennas, due to their close proximity to each other. They selected our input frequency as their family simplex net 'because they never heard anything on it'. Even if they had been listening to our output frequency, it is unlikely they would have heard us, due to their poor antennas, but it does not follow that we could not hear them.

continued next page

Reciprocity is only a valid argument when you choose to use the very best equipment!

Dumb, you say – even a cursory glance at a repeater directory or the WIA Band Plan would reveal that their choice of frequency was a poor one. Perhaps, but this was by no means an isolated incident.

Let's close with one last example, likely to earn you the wrath of a few grumpy old men like myself.

'Yer' mate has uncovered a stash of Codan commercial SSB HF transceivers at a price too good to pass up. Wanting to try your hand at 80 metre HF mobile, you and he program all the "5's and 10's" frequencies into your units. He proposes a test on 'channel 1', which turns out to be 3530 kHz. You're on to me if you've read this far – he's clearly in the 'gentlemen's agreement' CW sub-band. Of the entire available 80 metre spectrum, only 15.6% is allocated to CW operators. One sideband signal effectively wipes out 8.6% of that sliver – in practice, often more, as our band allocations do not mesh well with those overseas, thus often see us sharing our little corner with RTTY, SSB and even broadcasters. Many of those CW operators are operating vintage or homebrew rigs, crystal controlled on the QRP calling frequency of 3528 kHz. They would have no choice but to wait you out. No wonder they get a little testy! Your observance of the CW sub-band limits clearly implies a reciprocal obligation that CW ops stay clear, where possible, of the SSB bands, even though the band plan says we're welcome there. Are you listening, old timers?

In summary, much of what we do as amateurs can be likened to the '12 items or less' line at the supermarket – whilst you are unlikely to be hauled off to jail for transgressing, remember how you felt the last time someone in front of you piled 50 items on the belt? Somebody, somewhere, could be muttering the same imprecations over your very public on-air antics!

Reference 1:

http://www.wia.org.au/bandplans/

Reference 2:

http://www.acma.gov.au/webwr/aca_home/legislation/radcomm/acts/consolidations/radam_1of97.pdf

ar

Radios? you mean like CBs or something?

Jayenne Conroy

This is the most common response people give when I tell them about Peter's hobby, I mean passion, I mean obsession. Hell, it was the first thing I thought when he announced he was taking up radios.

I had visions of the bad mullets and hotted cars of my misspent youth; of 'breakers' and 'callsigns', '10-21's' and 'lonely YLs'.

Little did I know! We were (and still are!) renovating our Queenslander style home. Having raised it and built in underneath, I began to notice a collection of boxes with dials and knobs taking place, together with oddly shaped electrical components.

Peter began to disappear down there regularly, participating in 'skeds'. I found out later this stood for 'scheduled transmissions'. Until then, the only 'skeds' I knew were sneakers.

essential to being a radio widow is the ability to overlook how much your house begins to resemble a lopsided echidna

These skeds seemed to be a lot more formal than the CB chats of my youth, lots of letters and numbers, callsigns and no handles like 'Big Daddy' or 'BJ and the Bear'.

Unfortunately, some skeds were early on weekend mornings and, as Peter's radio room is under our bedroom, I would quite often be woken to the sounds of radio discussions! After I went down one Sunday morning and repeated, verbatim, the discussion Peter had just had – Peter bought a set of headphones. Ahh, headphones, the answer to every radio widow's prayers.

The other essential to being a radio widow is the ability to overlook how much your house begins to resemble a lopsided echidna.

Aerials and antennas begin to sprout from all over the roof. There were even loops of wire all through the trees. Not only was Peter disappearing downstairs but now would often say 'I'm going up onto the roof', leaving me to hear bizarre thumps and bumps overhead.

At one stage, he even co-opted me (an avowed acrophobic) to come up and help him shift an antenna from the side of the roof. My role was to catch the antenna pole as Peter brought it down across the roof.

Let's just say you can't always pick where an antenna will fall. The end result was the pole fell away from the roof and fell two metres down across the backyard. We now have a lopsided clothes hoist. Storms have also taken on a new significance, with various parts of antennas winding up in our backyard after them, increasing the lopsidedness of our Hills Hoist!

ar

NOTE: Article submitted by Peter Schrader VK4TGV, partner of the author. Peter reports that Jayenne will by now have attempted the Foundation Licence Assessment. She hopes to gain the callsign VK4FJAY

Silent keys

Archie Bode VK3AIB

It is with regret that I announce the passing of Archie Bode VK3AIB (and originally VK3LAB) on 22 September 2007, aged 83 years.

Archie was a self taught musician, who played piano, bass guitar and drums; he enjoyed playing jazz, and dance and band music.

Archie and his wife, Gwen, were married in 1949, and had three sons.

He had an inventive mind as well as basic engineering skills in welding, things electrical and mechanics. He also held a Private Pilot's licence.

Archie gained his Novice licence VK3LAB at the age of 70, and then went on to gain his full call VK3AIB, where he particularly enjoyed the challenge of operating CW.

He ran a small printing business in Noble Park, and when he retired Gwen and he decided to move to Sea Lake, where he continued his interest in music, outback travel and amateur radio.

He established a modest shack in a caravan, using an FT-7, a home brew power supply and an ATU, along with a G5RV antenna. He enjoyed listening to and using the Travellers' nets, and the Early Birds net, and keeping skeds, over the years.

Dementia related illnesses began to take hold so he decided to close his station down.

Archie is survived by his wife Gwen, and their three sons and their families, all who have many fond and cherished memories of him.

Submitted by Barrie Astbury VK3NJB.

Arne Van Der Harst VK5XV

Arne was born in Bandung, Indonesia in 1928.

From 1942 to 1945, as a teenager, he was interned in a Japanese Prisoner of War camp. During his time there, he discovered that the camp had two secret radios – a transmitter and a receiver. They had been built with parts procured from their captors, and were disguised as Japanese military drinking flasks. He was one of the select few who knew the secret (See AR magazine, September 2006).

After the war, Arne became a watchmaker, and then later on, for quite some years, worked at Flinders Medical Centre on medical technology equipment.

Arne was a very meticulous technician. He loved building things and repairing and refurbishing transceivers and the like, and then selling them to fellow hams. If you bought something from Arne, you knew it was 100%, perhaps better!

Arne was also a very accomplished jazz musician and arranger, specialising on piano. He had a jazz group going from the late 50s and into the 60s.

Arne and Bertie moved to a retirement village over a year ago, where he still kept regular 80 m and 2 m skeds with a few regulars.

He passed away in mid-January.

Submitted by Hans VK5YX and John VK5EMI.

Don Benck VK6DB

I regret to inform all that Don Benck VK6DB passed away suddenly on 17 February, 2008.

Don started his career at age 13 in Kalgoorlie working for a radio repair shop working on and repairing early valve radios. He then applied for a position with the ABC and became the CEO of 6WA Wagin for many years. Later on he worked at 6WF, where he often had to climb the 6WF tower and sit on the Top Hat to see if there was any arcing between joints! This was an amazing feat considering Don suffered a disability with his feet and ankles all his life yet never complained.

During his early career he also climbed the 6WA tower many times.

When he lived in Wagin Don was very proud to be honoured by the government and the ambulance association with a special award for duties undertaken while serving as a country ambulance driver.

He later applied for and obtained the position of Channel 2 CEO in Carmel, and while working there he named the adjoining road 'TV Alley', as it is still known today. Only a few years ago Don, even though retired, and due to his valuable knowledge, was called back to keep the Channel 2 TV station operational for some time until suitable staffing was arranged. He was also called in to help supervise a new cable and antenna installation at the SBS TV tower and on tower extensions at Channel 10.

Don was a very intelligent person and in later life became a full bottle on packet radio; he also attended classes to learn about computers, and had recently built his own.

He was a devoted family man who was always working on various chores for the benefit of the family. Don had only good to say about everyone, and was well liked by all his friends. You had to be careful talking to him as it only took a few words and you would find yourself loaded up with his gear, such was his generosity.

Just recently he had repaired his rotator and antenna and was looking forward to building some new antennas and getting active on the HF bands.

Don was a longstanding member of the WIA, and also the Hills Amateur Radio Group.

Another passing of an early AR gentleman, and a sad loss to our ranks.

Submitted by Doug Jackson VK6DG with permission and support from May Benck.

John Knott VK2VM ex VK2AYK

It is with regret that we announce the passing of John in late December 2007.

A keen contester in the 80s and 90s on CW and short wave; an enthusiast since the 1950s. He had been inactive recently due to ill health but was a keen listener to the end.

Deeply missed by all his loved ones.

Vale John.

Submitted by his daughter Sonya.

Royal Assent – Official

May I inform readers that a superb compilation of early VK4 history has been archived at the Royal Historical Society of Queensland (RHSQ).

This tome, because that is what it is, weighs over 3 kg, is bigger than A4 size and 5 cm thick. It covers in depth the activities of some of Queensland's most prominent pioneers: much of it in print for the first time. It had been titled "Document collections: Radio and TV Pioneers 1920-1940." The author is Russell Nunn from Brisbane: a radio and TV engineer, journalist, TV manager and an amateur for a very short period many years back.

This tome was put together for archival purposes. It is not for sale commercially. Large and heavy as it is, more researched material is likely to be added during 2008.

Russ and the RHSQ naturally would like to see it read by many amateurs and others. The address is William Street, North Quay, River City, Brisbane.

"Halcyon days" is also archived at RHSQ and the John Oxley Library, South Bank, or can be purchased commercially via the WIA Bookshop.

It speaks well for Queensland that we have been able to retrieve the rare documents and other material we have archived. Go and have a read.

Alan Shawsmith (Al) VK4SS
Retired historian

Dinosaur requests

Perhaps I am a little old, but in all the years of my membership of the RSGB and the WIA I have enjoyed reading the member's letters column almost as much as the featured articles. They were full of interesting ideas, thought provoking views, criticism (usually constructive) and occasional controversy. It saddens me that they are now so few in number; not one in December 07 AR! Why?

From my dinosaur's world of computer illiteracy, I suspect that bane of the numerical healthiness of our hobby, the internet, is to blame.

Perhaps I should adopt the fatalistic attitude expressed so well in that rural Yorkshire of my youth and say to myself: "These things 'appen"? No! Better to adopt the attitude of the country of my middle and later life and fight it. This letter is a start, and I reckon I am good for a couple that come under the heading of "ideas". Remember! Anything published in "Over to You" is available to all, not just the computer literate; even if they are in the majority (vast majority?).

To hopefully get things moving, I do hereby (dinosaur talk) issue a challenge to anyone who believes "Over to You" should be discontinued: Justify your opinion, via the forum available to all! This may seem counter productive, however I believe there is little to lose and much to gain; but please, be constructive!

David the Dinosaur VK3FGE (David Bell)

Editor's response:

David and other readers,

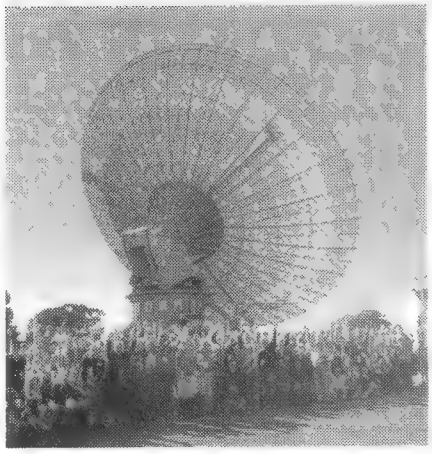
I welcome OTY contributions, but do reserve the right to edit and publish, or not publish material.

In the case of the December 2007 issue of AR, we had a large amount of material to publish and little in the way of OTY items. Despite expanding the magazine to 64 pages, we simply did not have space for all the material we would have liked to publish. The same problem arose with the January/February issue. As some of the Club news items often have a limited "shelf life", we tend to drop the newer SK and OTY items, if any are "in the mix", rather than cutting Club news. This is what occurred in December.

If we have OTY items that are suitable for publication, I will attempt to fit them into the available space as soon as possible. As always, in this modern age, it is easier if the contributions are made electronically. That way, I do not need to type the material or to process a typed letter through a scanner and optical character recognition software.

Regards,

Peter VK3KAI



The crowd at last year's AGM in Parkes.
Photo: Robert Broomhead

Parkes, now Broken Hill!

Although I am unable to attend the Annual General Meeting of the WIA, I want to express my thanks for it once again being held in a regional area.

I am sure that I am not alone in saying "well done" on behalf of those members of the WIA who, like me, do not live in a major city.

Parkes last year, and Broken Hill this year: What a shot in the arm for rural and regional members. Of course, it also provides our city based members with an opportunity to see how the other half lives.

Again, well done, and congratulations to all involved with the decision.

Ray Wells VK2TV

WANTED

Volunteers to assist in the 2009 Callbook preparation

Must have internet access and be able to edit documents using Word or an equivalent word processing package.

We are specifically looking for someone to coordinate preparation of the electronic version of the Callbook.

If you are able and willing, please contact the editor (details on page 1 of Amateur Radio)

Hamads *classifieds* FREE

FOR SALE NSW

• Ozi-Pole portable dipole kits complete and ready to assemble. Covers 40 – 6 metre bands (80 m add-on available) and is ideal for balcony use, clamped to a picnic table or pedestrian use. A great build-it-yourself project that you can use with pride from the MNCARG Inc. P.O.Box 505 Bellingen NSW 2454. Visit http://www.mncarg.org/ or email mncarg@yahoo.com.au. Price $99 + post.

WANTED NSW

• Operators manual or copy for Telecheck and Marker Generator Model 1323A, manufactured by Cossor Instruments, London. Will meet all costs. John Bennett, VK2SIG, RSARS 3292, QTHR, email: macben2@bigpond.com

• Mode Selector switch for a Yaesu Radio FT101ZD, or do you know of anyone who can help me out. Stephen Smith VK2SPS, Ph 02 9456 0130 or 0415 559 784

FOR SALE VIC

• Communication receiver R-390/URR. Collins designed, Motorola built. This well known classic Rx used by USA military has S/N 69 and produced in the 1950s for general surveillance/communication. Fully operational, serviced, aligned with reconditioned panel and hardware. It is not an R-390A/URR. Full technical specifications and photos available via email. Price $1100. Freight and packing costs extra but negotiable. I can deliver to Melbourne. Frequency Counter Racal-Dana Model 9916 operates to 520 MHz excellent condx. Price $98. HP 6034L System Power supply 0 - 60 V/10 A (200 W) LED numeric display. Can be controlled manually from panel or with GPIB /HP-1B bus, price $180. Pete VK3IZ, phone 03 5156 2053, P.O Box 212 Metung 3904

FOR SALE QLD

• 96 element 70 cm beam (no brand – possibly by Hi-Gain), needs some repair. Also a 7 element 2 m beam (no brand - again, possibly Hi-Gain). Both free, just for collection at Brisbane address. VK4LR, Ph 07 3870 7305.

• Emtron DX-1D 1 kW HF linear amplifier. 160 to 10 metres. As new. Little used. S/N #10523. $2600.00. VK4CAG QTHR

• 4-Element Triband HF Yagi antenna, Chimside Yagi Antenna Model CR-34DX, High performance 4 Element Triband Beam, 10 m – 15 m – 20 m amateur bands. Longest element is 9 m long. Comes disassembled with short mast and plenty of cable. Good condition - works great. Sell for $400. Stored in Morningside, QLD. Jonathan Dimond (ex-VK4DJD) email: jonathan@jonathandimond.com, phone: 03 9016 3506

• Nally heavy duty near new tower, lower 3 section of 150 ft with winch and brake. Lifts Z sections to 23 m with section pull-down hold-up plates. Fitted with Kenpro 450 degree rotator in tower and 6 m 60 mm shock absorbed pipe, SS sleeve bearing and fittings to mount 3 beams Xmas-style, top beam at 25 m steel reinforced double tilt at 2.5 and 4 m with 10, 5, 1 ratio winch to lower tower top to ground level. Buyer to disassemble and remove as VK4UA cannot due to poor health causing close down at Pimpama. New tower is now $4000 but will consider best offers, or tower $900 to $1200, tilt unit $200 to $275, rotator with pole $300 to $400. Bill VK4UA phone 07 3393 3030 or leave your number on recorder.

FOR SALE SA

• VK5JST Antenna Analyser kits (see AR article May 2006). Build yourself an extremely useful item for your shack, and improve your HF antenna efficiency. For more details see www.scarc.org.au; contact SCARC PO Box 333 Morphett Vale SA 5162, or email: kits@scarc.org.au

WANTED SA

• Matched pair of 3-500Z tubes; prefer Eimac or Amperex NOS or low hours known good/full output tubes. Would also consider single non-matched tubes. Wanted as spares to keep my old Kenwood TL922 linear amplifier serviceable. Contact Leigh VK5KLT, QTHR, phone: 08 8367 0303 or email: leigh.turner@ieee.org

About hamads....

- Submit by **email (preferred)** or on the **form on the reverse of your current Amateur Radio address flysheet**. Please print carefully and clearly, use upper AND lower case.
- Separate forms for For Sale and Wanted items. Please include name, address STD telephone number and WIA membership number.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from those who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising on these pages Contact Newsletters Unlimited.
- Copy typed or printed clearly please, and received by the deadlines on page 1 of each issue of Amateur Radio.

Email: *newunltd@bigpond.net.au*

Postal: *Newsletters Unlimited, PO Box 431, Monbulk 3793*

Submission of Articles

Articles submitted for publication in Amateur Radio are accepted on the understanding that:

- the article is not currently on offer to any other publication;
- the article is an original work written and created by the Author;
- the article is subject to editing for length, style, grammar, spelling and taste,
- and, if published, the Author grants to The Wireless Institute of Australia (WIA) for the term of the copyright therein an irrevocable, royalty-free, non-exclusive licence throughout the world to:
  - reproduce, publish, republish, transmit and distribute the article in Amateur Radio and thereafter in any other WIA publication or compilation in any manner and in any medium whether now existing or developed in the future including in print, electronic and on-line formats, and
  - to permit any other IARU national radio society to publish the article in its national magazine.
  - provided always the article is fully and clearly attributed to the author and, where appropriate, to the WIA and Amateur Radio.

Detailed Instructions to Authors are available on request, or from the AR section of the WIA website.

Any request to reproduce any article or item in any form must be submitted to the Editor in the first instance.

ADVERTISERS INDEX

Av-com	55
Bookshop	37
City Online (Hamshack)	49
Com-an-tena	9
G & C	8
Icom	28, 29, OBC
Small ads	55
TET-Emtron	40
TTS	23
Vertex	IFC

radio & electronics school

Become a radio amateur

Check out the courses on offer from Australia's premier training institution for radio amateurs and hobbyists.

Already licensed?

Upgrade to the Standard licence using our self paced multi-media CD ROM course.

The easiest way to become a licensed radio experimenter. Discover digital communications, get more power and more bands

Still want more?

Be guided by one of our experienced facilitators using our proven on-line study methods and get your Advanced licence.

Visit

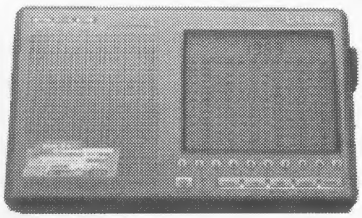
http//www.radioelectronicschool.com for more information, or email the course manager at

info@radioelectronicschool.net

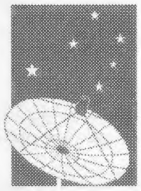
Telephone 07-5573-2795 12-5PM AEST

Amateur radio – a bridge to careers in radio communications technology

DEGEN 1103 HF Receiver



Pocket sized, 100Khz-29,999Khz
LCD display, SSB, AM wide/narrow,
FM stereo, DX/Local, 10m longwire
NimH batts & charger,
earphone & carrycase included.
Full review Silicon Chip Dec 2006



ONLY $159 with 12 month warranty

Av-Comm Pty Ltd
24/9 Powells Rd
Brookvale NSW 2100

Tel: 02 99394377
Fax: 02 99394376
www.avcomm.com.au

A.C.N 002 174 478 Established 1981

VKHAM.COM

AUSTRALIAN AMATEUR RADIO

Hundreds of pages and links related to Amateur Radio and radio in general

Home of:
- **VK Classifieds**
- **VK Auctions**
- **VK's on the Internet**

Repeater Maps, Software, Prefix Maps and more ...

RM Products Italy

are now available in Australia after the appointment of

Hamak Electrical Industries Pty Ltd

as distributor for RM products
Visit the Hamak website at
Hamak.com.au for
Linear amplifiers, Power supplies and accessories

CELEBRATING BEING LICENSED FOR 10 YEARS?

Congratulations!
Now you can join the

Radio Amateurs Old Timers Club of Australia

as an *associate member*

If you have been licensed more than 25 years then you are invited to join as a *full member* of the RAOTC.

In either case a $5.00 joining fee applies. The annual fee is $8.00 or only $15.00 for two years. The Club journal, OTN, is published twice each year and there are monthly news broadcasts. We also guarantee good fellowship.

Write to
RAOTC,
PO Box 107,
Mentone, VIC., 3194
or call Derek VK3XY on 03 9563 6909
or Bill VK3BR on 03 9584 9512.

More details of the Club and membership application forms are available from our web site:

http//:www.raotc.org.au .

A new

Amateur Radio Wiki

has been started and can be found at

http://www.amateur-radio-wiki.net

We are looking for writers of articles suitable for this website.

The intention is that it will become an online encyclopaedia for hams.

Please log into the site, register and start writing!

Tim Roberts VK4YEH QTHR.

AMIDON FERROMAGNETIC CORES

The old RJ & US Imports has ceased operation and the business is now operated by

Newtek Electronics

345 Keira Street, Wollongong NSW 2500.
ph/fax: 02 4227 1620
web: www.newtek.com.au
email: sales@newtek.com.au .

Newtek operate a shop and supply all types of electronic components.

Agencies

Active Electronics, Tas
TTS Systems, Tyabb (VIC)
Tower Communications, Perth
MiniKits, Adelaide

TRADE PRACTICES ACT

It is impossible for us to ensure that the advertisements submitted for publication comply with the Trade Practices Act 1974. Therefore, advertisers and advertising agents will appreciate the absolute need for themselves to ensure that the provisions of the Act are strictly complied with.

VICTORIAN CONSUMER AFFAIRS ACT

Advertisements containing only a PO Box number as the address cannot be accepted without the addition of the business address of the box-holder or seller of the goods.

JACKSON BROS

JACKSON OF THE UK IS BACK

Highest quality products made by UK craftsmen

www.jacksonbrothers.com.au

Full range now off-the-shelf in Australia

Variable and trimmer capacitors, reduction drives, dials, ceramic standoffs

CATALOGUES, PRICE LISTS AVAILABLE

CHARLES I COOKSON PTY LTD
11-13 Port Rd
Queenstown SA 5014
Tel: (08) 8240 3200 Fax: (08) 8240 3233
FreeFax 1800 673355 within Australia

Email: sales@jacksonbrothers.com.au

ALL MAJOR CREDIT CARDS ACCEPTED
SOLE AGENTS AUSTRALIA AND NEW ZEALAND

DIRECTORY

The Amateur Service:

a radio communications service for the purpose of self training, intercommunication and technical investigation carried out by amateurs, that is, by duly authorised persons interested in radio technique with a personal aim and without any pecuniary interest. 1.56 ITU Radio Regulations.

The Wireless Institute of Australia represents the interests of all amateurs throughout Australia.

The WIA offers **one year** and **five year** memberships for **Full Member $75 ($356), Overseas Member $85 ($403)** and **Concession Member - Pensioner $70 ($332)**, and **one year** memberships for **Concession Member - Student $70** and **Family Member $30.**

National Office
10/229 Balaclava Road
Caulfield North VIC 3161
PO Box 2175
Caulfield Junction Vic 3161
Australia

Contact
Phone 03 9528 5962
Fax 03 9523 8191
10am to 4pm daily
nationaloffice@wia.org.au
http://www.wia.org.au

News Bulletin Schedule
Subject to change.
See www.wia.org.au and follow National News prompts.
Contact nationalnews@wia.org.au
National VK1WIA news is distributed to all states.

Advisory Committees

Chairman of the regional committee is in bold

New South Wales & ACT
Email vk2advisory@wia.org.au
Alan Hawes VK1WX (02) 6258 2568
Owen Holmwood VK2AEJ
Dominic Dahl VK2YDD
Col Christiansen VK2BCC

Victoria
Email vk3advisory@wia.org.au
Bryan Pliatsios VK3HXR 0403 604 242
Lee Moyle VK3GK
Noel Ferguson VK3FGN
Mark Stephenson VK3PI

Queensland
Email vk4advisory@wia.org.au
Don Wilschefski VK4BY (07) 4928 0065
Kevin Johnson VK4UH
JR (Ross) Anderson VKAQ
Harvey Wickes VK4AHW

South Australia
Email vk5advisory@wia.org.au
David Box VK5OV (08) 8532 1605
Peter Reichelt VK5APR
Paul Hoffman VK5PH
WRG Holman VK5GH

Western Australia
Email vk6advisory@wia.org.au
Keith Bainbridge VK6XH (08) 9279 4923
Neil Husk VK6BDO
John Howlett VK6ZN
Robert Bristow VK6POP

Tasmania
Email vk7advisory@wia.org.au
David Potter VK7YUM (03) 6395 4400
Clayton Reading VK7ZCR
Jason Reilly VK7ZJA
Peter Rumble VK2IY/VK4KX

Northern Territory
Email vk8advisory@wia.org.au
Garry Woods VK8GW (08) 8983 1620
Alan Baker VK8ZAB
Trevor Wardrope VK8TJW
Wayne Cockburn VK8ZAA

Broadcast details

VK1	VK1WIA:	Sunday 1100 local, on 7.128, 146.950 and 438.050 MHz. Email newsletter, on request, via president@vk1.ampr.org
VK2	VK2WI:	Sunday 1000 and 1930 local, on 1.845, 3.595, 7.146, 10.125, 14.170, 28.320, 52.525, 145.6000, 147,000, 438.525 and 1273.500 MHz. Also 5.425 MHz USB in the morning.. Plus provincial relays both sessions and country relays in the morning via local repeaters. VK1WIA news is included in the morning.
VK3	VK1WIA:	Sunday 10:30 am & 8 pm Local Time. Amateur Radio Victoria VK3BWI B/cast Network: 3.615, 7.158, 10.130,147.250 VK3RMM Mt Macedon, 146.700 VK3RML Mt Dandenong, 147.225 VK3RWG Mt Baw Baw, 438.075 VK3RMU Mt St Leonard.
VK4	VK1WIA:	Sunday 0900 local via HF and major VHF/UHF repeaters.
VK5	VK5WI:	Sunday 0900 local, on 1.843, 3.550, 7.140, 28.470, 53.100 AM, 146.900 (SE), 146.925 (CN), 147.000 and 439.975
VK6	VK6WIA:	Sunday 0900 local, on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120, 50.150, 146.700 and 438.525 MHz. Country relays on 3.582 MHz and major repeaters. Repeated Sunday, 1900 local, on 1.865, 3.564, 146.700 and 438.525 MHz. Country relays on major repeaters. Also in 'Realaudio' format from the VK6WIA website.
VK7	VK7WIA:	Sunday 0900 local, on 1.840 AM and 3.570 MHz and on major repeaters. VK7 regional news follows at 0930 local, on 7.090 and 14.130 MHZ, and on major repeaters.
VK8		Sunday 0900 local, on 3.555, 7.050, 10.130 and 146.900 MHz.

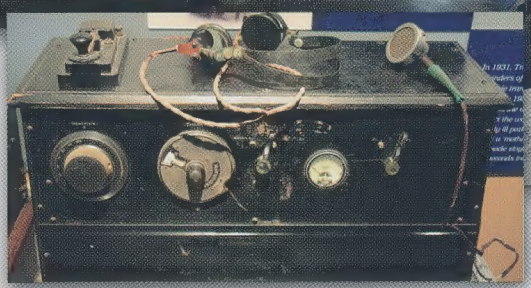
Note that many clubs broadcast the WIA News via local VHF and UHF repeaters. Check the News section of the WIA website.

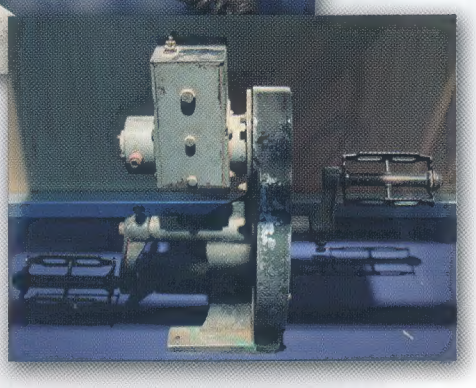
WIA AGM

24 & 25 May

Broken Hill attractions...

Royal Flying Doctor Service





School of the Air

...and many more

Visit

http://www.visitbrokenhill.com.au/

Taking Excitement of the Chase to New Heights

New

ICOM'S NEW IC-7700 SETS THE BENCHMARK FOR ALL HF TRANSCEIVERS

See the new IC-7700 and D-STAR at the Moorabbin Hamfest

ICOM

ICOM 248

Call your local ICOM dealer www.icom.net.au or (03) 9549 7500

Cut out this coupon to receive your

FREE ICOM STUBBIE HOLDER or CAP

only available at Icom Stand at Moorabbin Hamfest

Available while stocks last

Volume 76 Number 4 APRIL 2008 Print Post Approved PP349181/00420